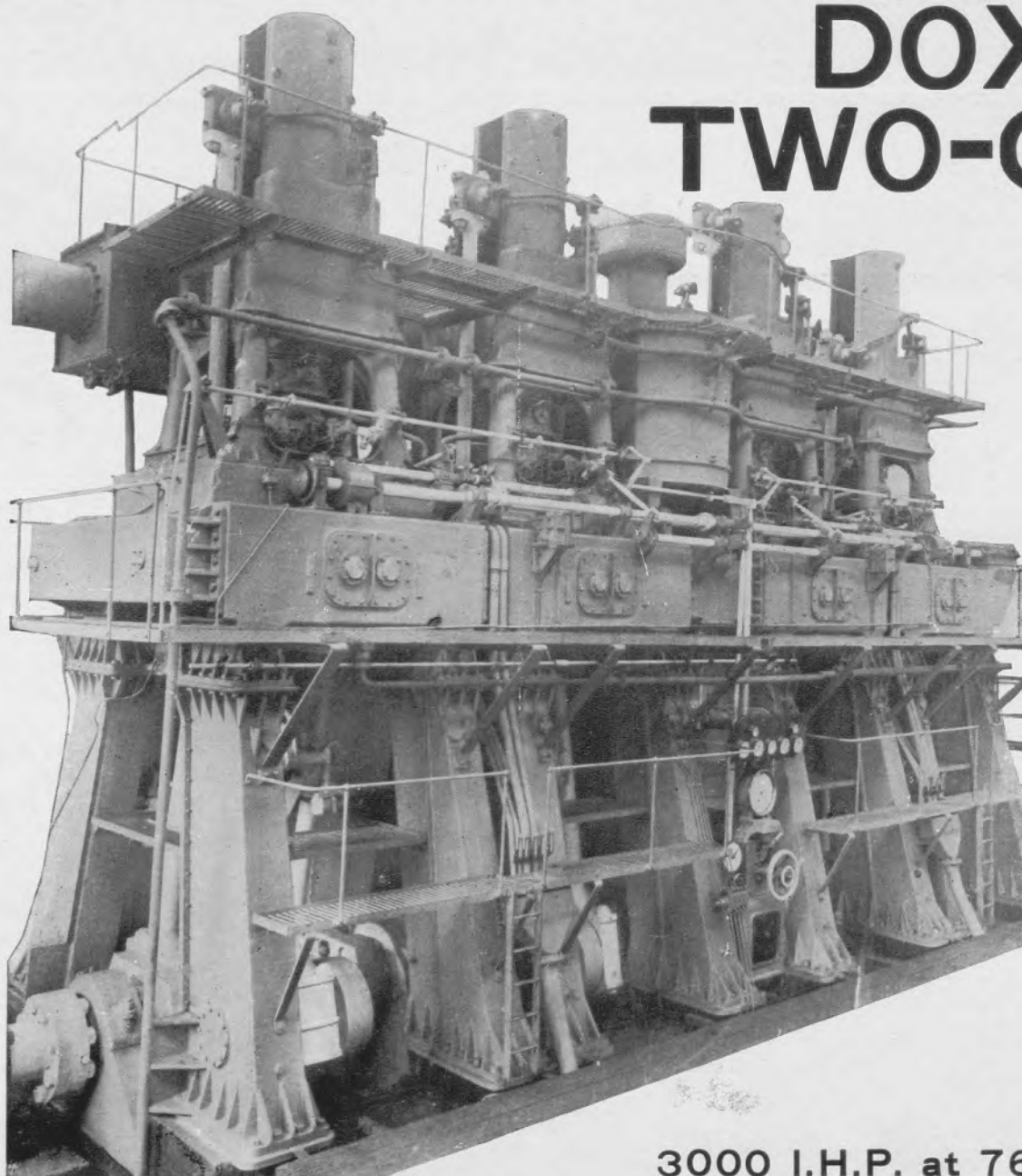


SUN SHIP DIESEL

BUILDERS
**DOXFORD
TWO-CYCLE**



3000 I.H.P. at 76 R.P.M.
ON SINGLE SCREW

DOXFORD AND

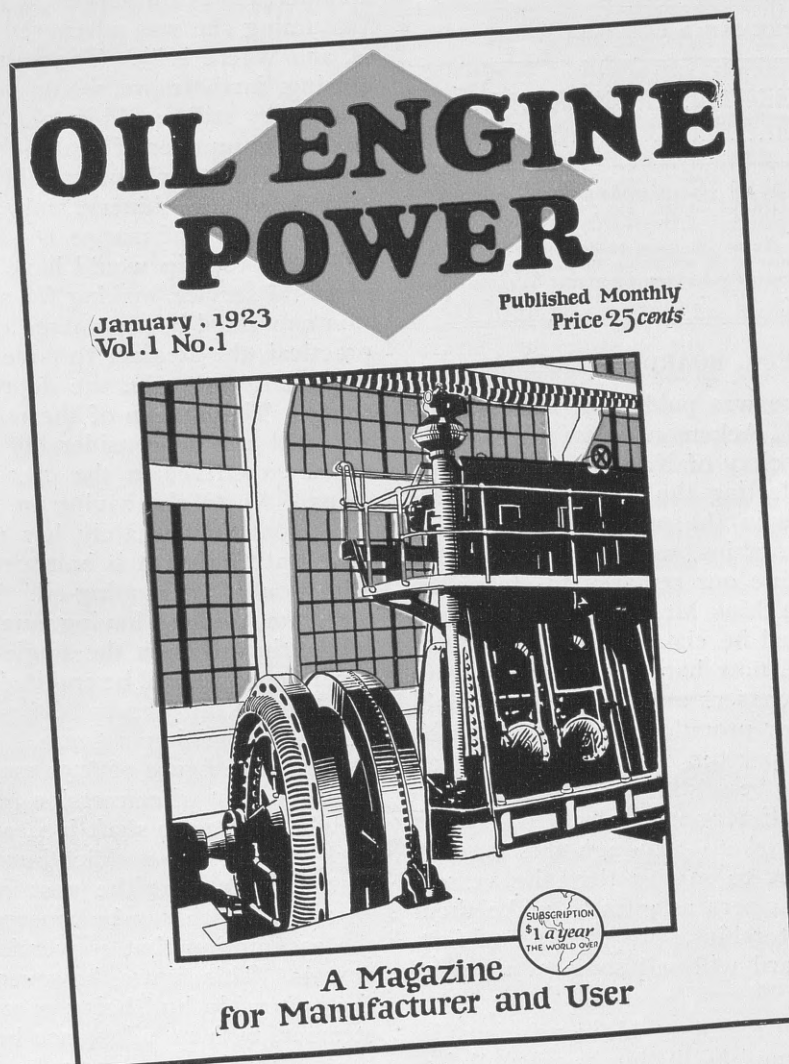


MOTORSHIP "DOMINION MILLER"

PHILADELPHIA OFFICE
FINANCE BUILDING

MAIN OFFICE
CHESTER

**"TO MAKE OIL ENGINES KNOWN
WHEREVER POWER IS NEEDED"**



A Companion Journal to MOTORSHIP

It is now recognized that the Oil Engine is a fundamental prime mover whose efficiency in the generation of power is without equal.

Used on land or at sea the Oil Engine achieves striking economies destined to revolutionize both shipping and industry.

To make known to power users every-

where the applications, possibilities and economies of the Oil Engine, the Publisher of "MOTORSHIP" has established a companion journal—"OIL ENGINE POWER".

Subscriptions entered now at the special introductory rate of \$1.00 per year will be started with the first issue. In order to secure a complete set of files, act now!

MILLER FREEMAN, Publisher

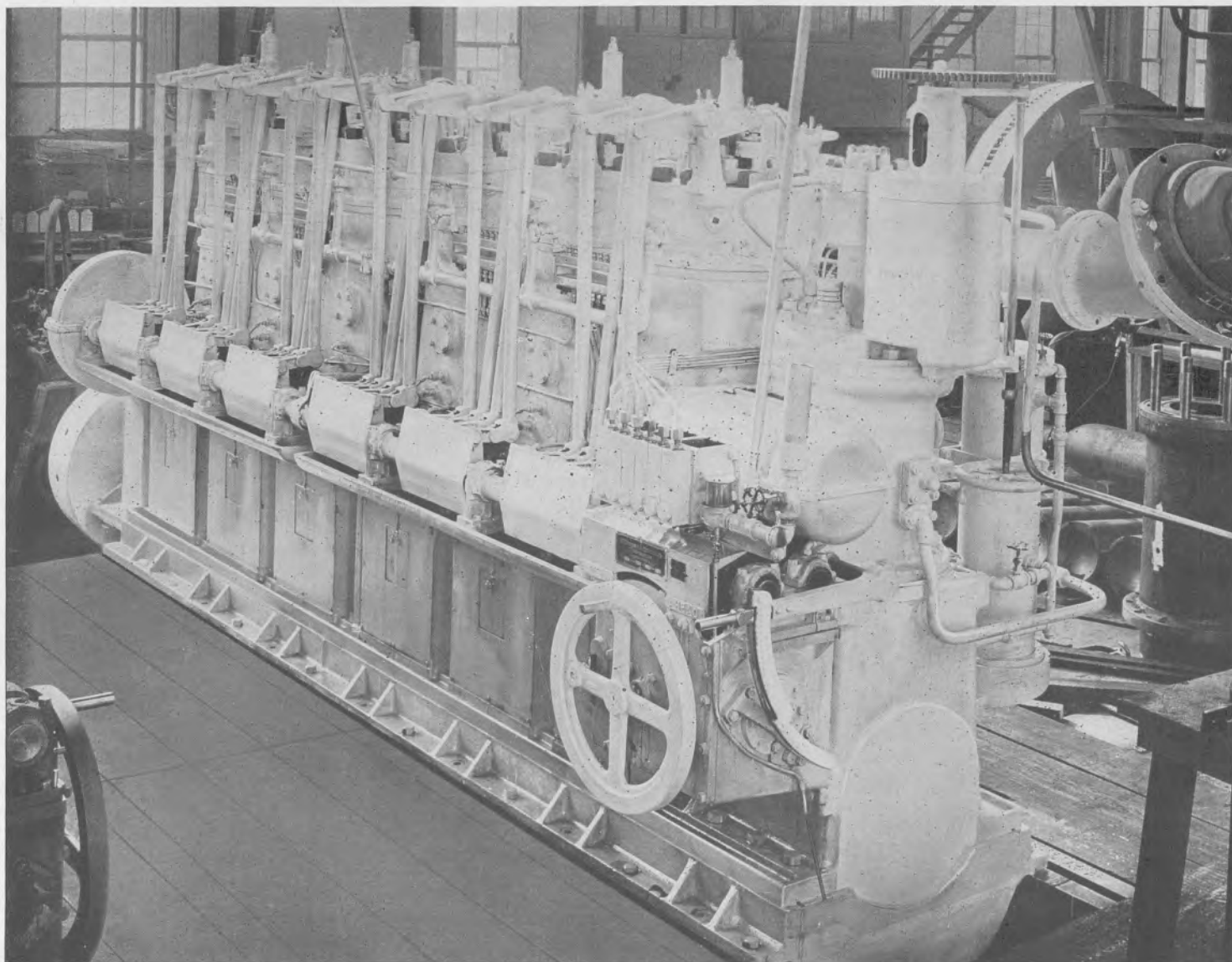
SEATTLE

SAN FRANCISCO

NEW YORK

McINTOSH & SEYMOUR CORPORATION

DIESEL MARINE ENGINES



The illustration on the front cover of this magazine shows the Motorship "TEXACO 147" of the Texas Steamship Company of New York City. The "TEXACO 147" is 156 feet long, 24 feet beam, and 11 feet 4 inches full load draft, and has a deadweight capacity of one thousand tons.

This is a single-screw vessel, and is equipped with one of our 390 indicated horsepower Diesel marine engines illustrated above, which gives her a full-load speed at sea of about nine knots.

This vessel is a very good illustration of what can be done with a vessel of moderate capacity and with moderate draft so as to be suitable for use in a river or canal as well as for service at sea. It has been found that with this vessel, which encounters ice at times in winter, the prompt maneuvering of the Diesel engine facilitates greatly the handling of the vessel under these conditions.

Write for Bulletin No. 66, "Achievements in Motorships."

MAIN OFFICE AND WORKS

AUBURN, N. Y., U. S. A.

149 BROADWAY
New York City

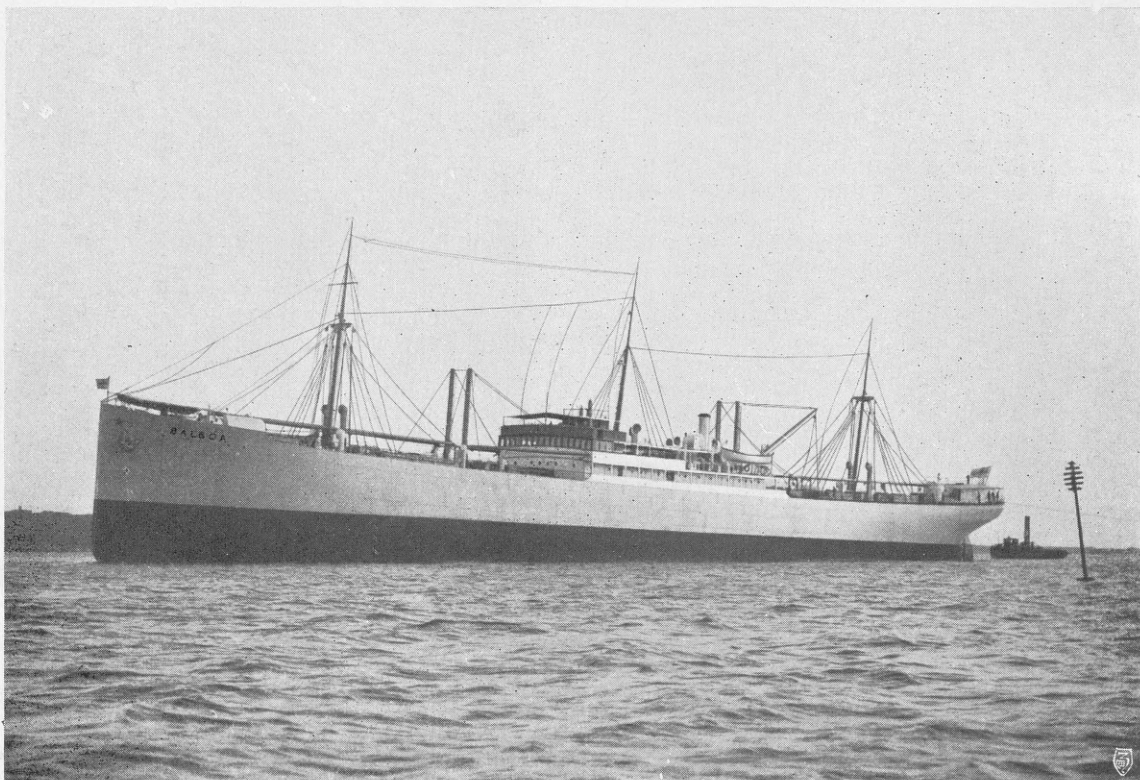
700 INTERSTATE BLDG.
Kansas City, Mo.

815 SHELDON BLDG.
San Francisco, Calif.

325 HUMBLE BLDG.
Houston, Texas

412 BISBEE BLDG.
Jacksonville, Fla.

PERFORMANCES OF GÖTAVERKEN MOTORSHIPS



No. 5

THE M.S. "BALBOA"

9,300 tons d. w.; Owners: The Johnson Line, Stockholm

Date of delivery July 3rd 1919
 Distance travelled..... 136,000 Naut. miles
 Average speed 11.18 Knots
 Oil consumption per day (incl. auxil.) 10.2 Tons
 Power..... 3,060 I. H. P.
 Cruising-radius..... 42,000 Naut. miles

BUILT AND DIESEL-ENGINED BY THE GÖTAVERKEN

GÖTAVERKEN

☛ GÖTEBORG - SWEDEN ☛

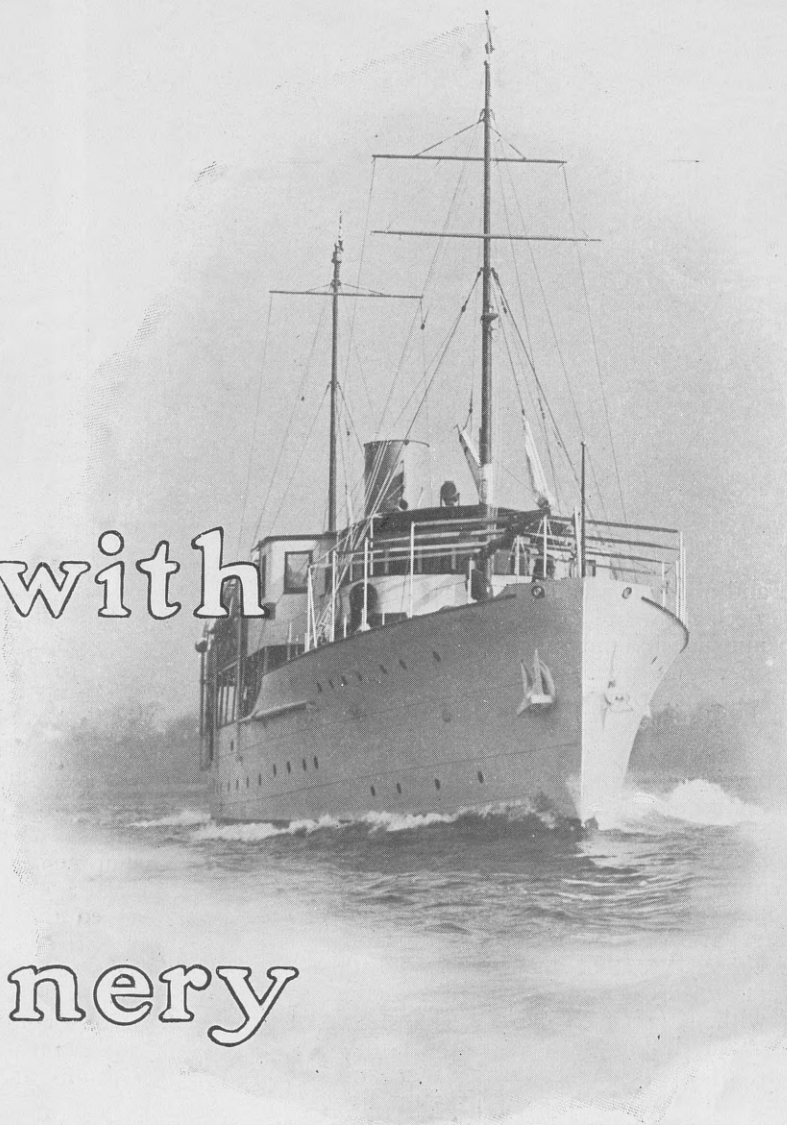
SHIPBUILDERS AND DIESEL-ENGINE CONSTRUCTORS

LARGEST FLOATING DRY-DOCK IN SCANDINAVIA

LIFTING CAPACITY 13,000 TONS



The Motor Yacht OHIO is equipped with AECO Electric Deck Machinery



The power-driven Deck Machinery is AECO-designed-and-built.

This is as it should be.

An inspection of the finer yachts will prove that the "Ohio" followed accepted practice.

To have available an experience covering over half a century should be most assuring to the owner, designer and builder of yachts, when selecting deck auxiliaries.

—Simply—

Choose AECO and forget about it.

The machines will be there when needed—will work when needed—and be sightly to look upon.

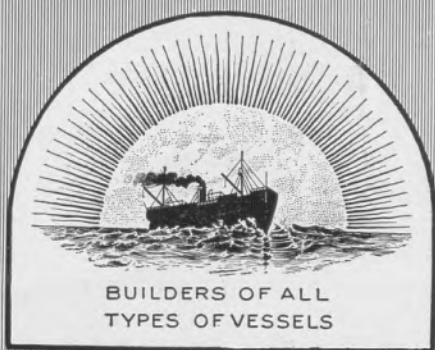
Our Engineering staff is at your service—without obligation.

Our literature is yours upon request.

AMERICAN ENGINEERING COMPANY

PHILADELPHIA

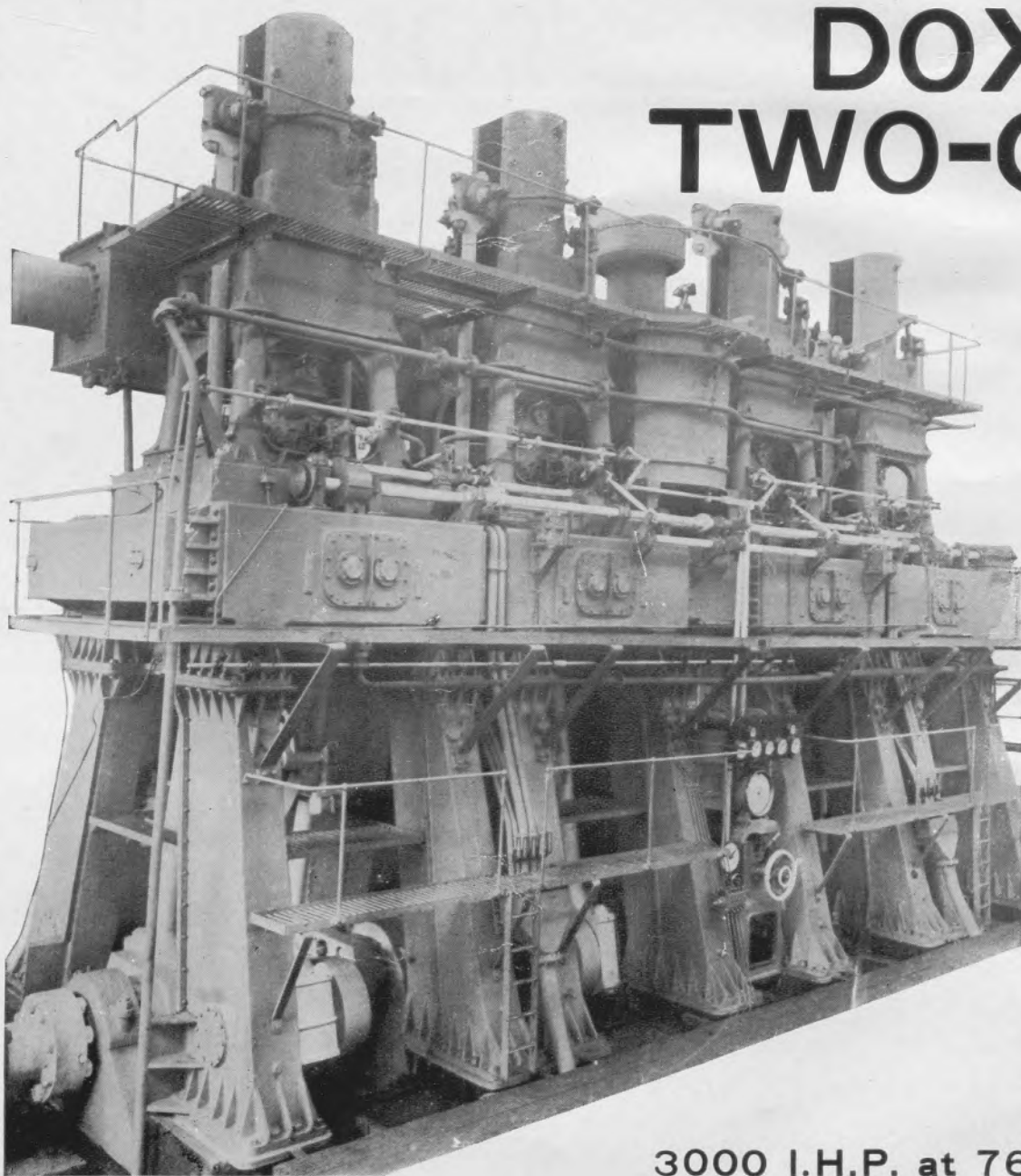
PENNA., U. S. A.



BUILDERS OF ALL
TYPES OF VESSELS

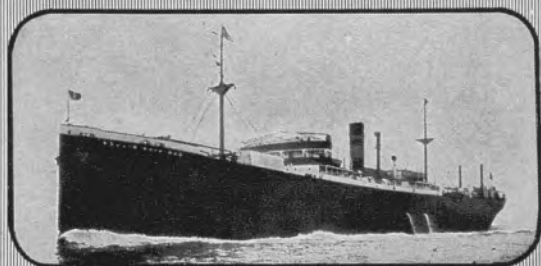
SUN SHIP DIESEL

BUILDERS
DOXFORD
TWO-CYCLE



3000 I.H.P. at 76 R.P.M.
ON SINGLE SCREW

DOXFORD A

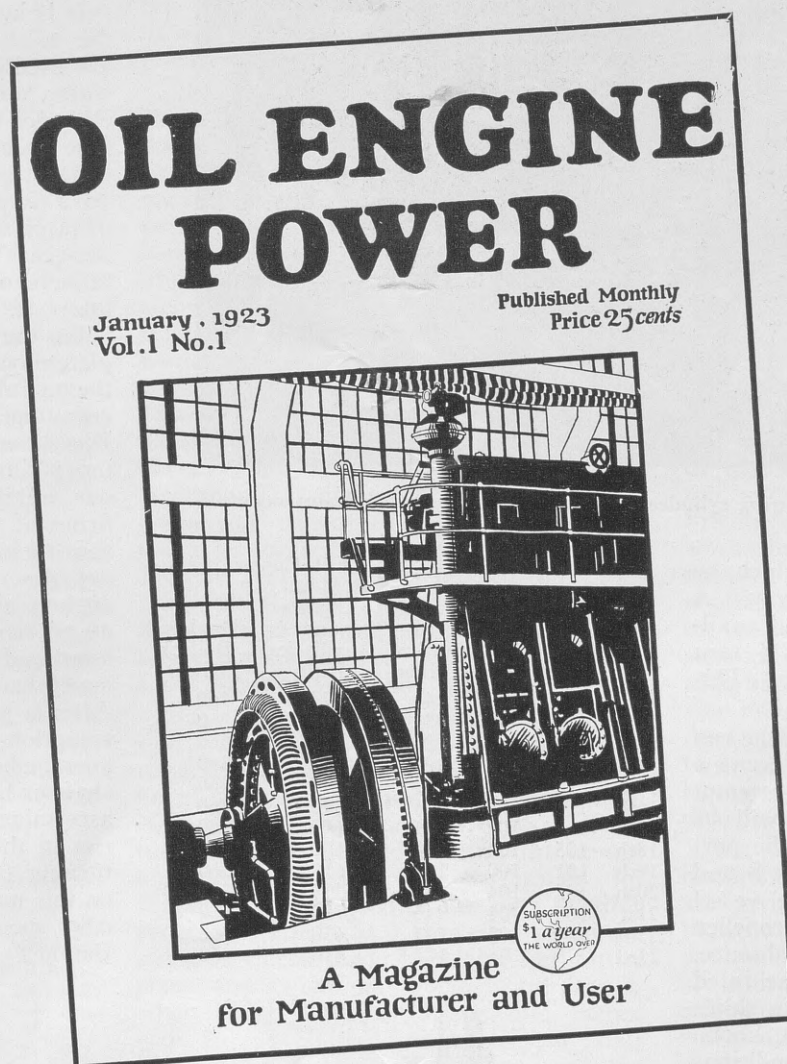


MOTORSHIP "DOMINION MILLER"

PHILADELPHIA OFFICE
FINANCE BUILDING

MAIN OF
CHEST

**"TO MAKE OIL ENGINES KNOWN
WHEREVER POWER IS NEEDED"**



A Companion Journal to MOTORSHIP

It is now recognized that the Oil Engine is a fundamental prime mover whose efficiency in the generation of power is without equal. Used on land or at sea the Oil Engine achieves striking economies destined to revolutionize both shipping and industry. To make known to power users every-

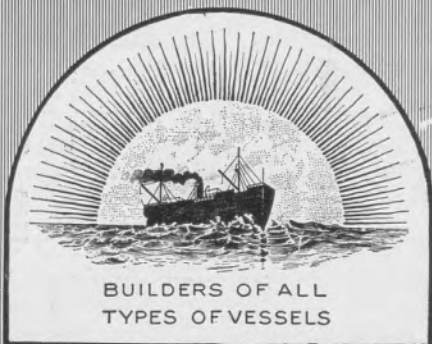
where the applications, possibilities and economies of the Oil Engine, the Publisher of "MOTORSHIP" has established a companion journal—"OIL ENGINE POWER". Subscriptions entered now at the special introductory rate of \$1.00 per year will be started with the first issue. In order to secure a complete set of files, act now!

MILLER FREEMAN, Publisher

SEATTLE

SAN FRANCISCO

NEW YORK

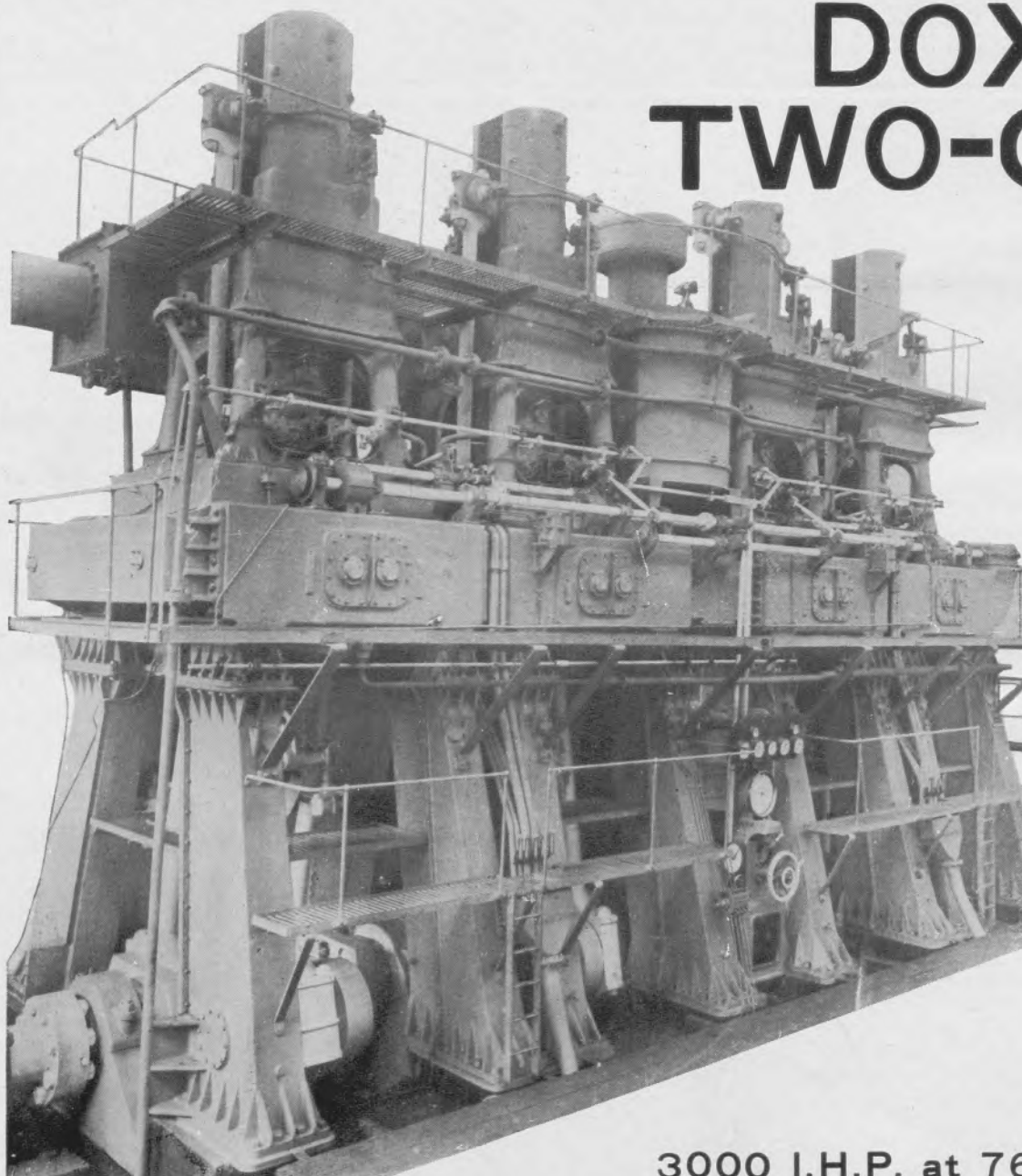


BUILDERS OF ALL
TYPES OF VESSELS

SUN SHIP DIESEL

BUILDERS

DOXFORD TWO-CYCLE



3000 I.H.P. at 76 R.P.M.
ON SINGLE SCREW

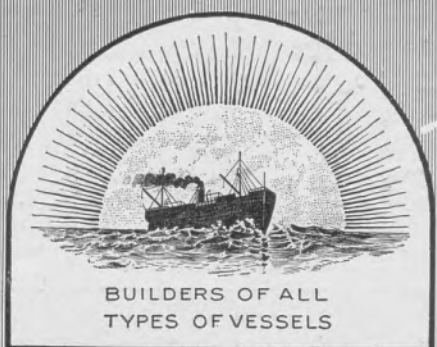
DOXFORD A



MOTORSHIP "DOMINION MILLER"

PHILADELPHIA OFFICE
FINANCE BUILDING

MAIN O
CHEST

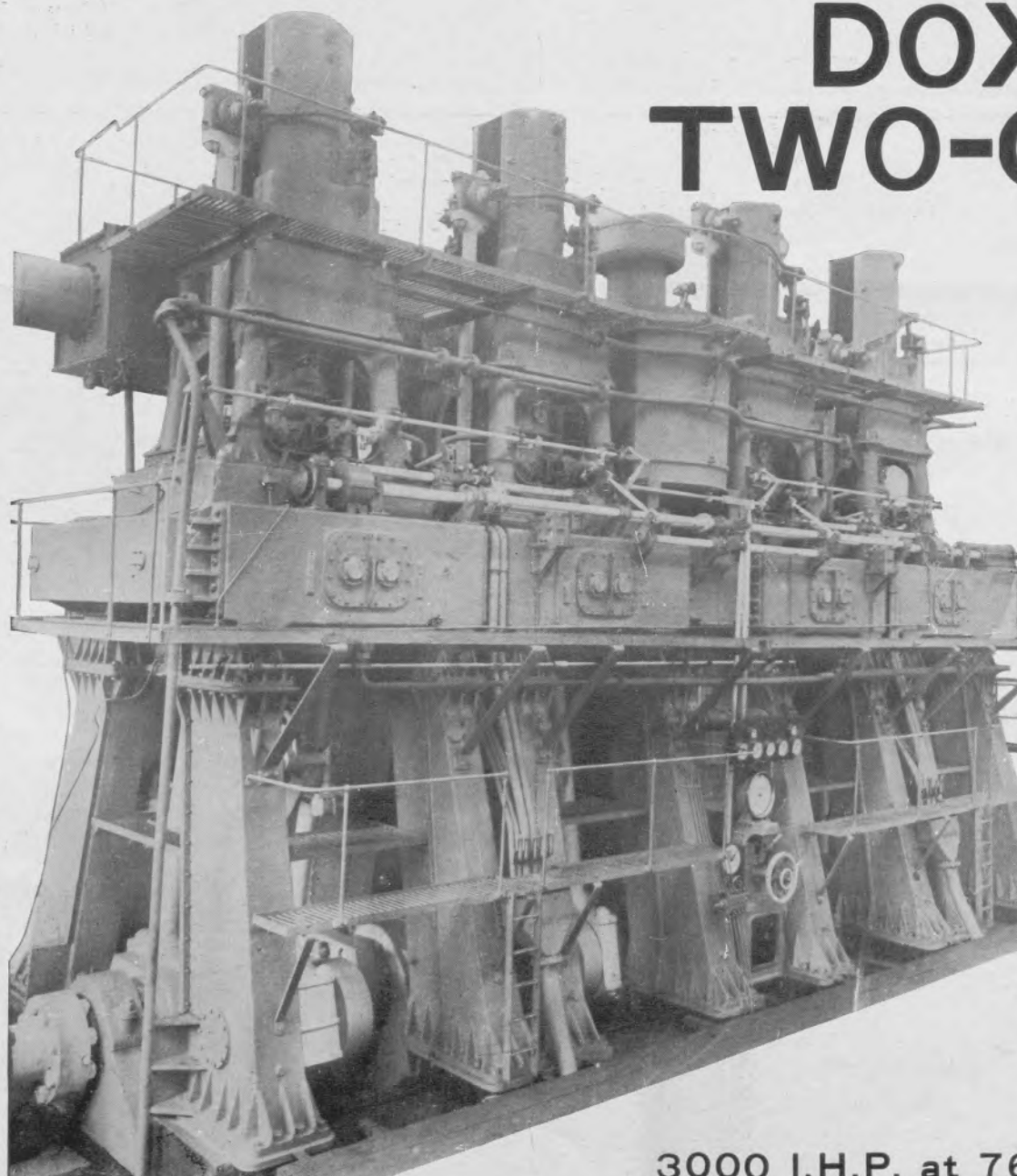


BUILDERS OF ALL
TYPES OF VESSELS

SUN SHIP DIESEL

BUILDERS A

DOXFORD TWO-CYCL



3000 I.H.P. at 76 R.P.M.
ON SINGLE SCREW

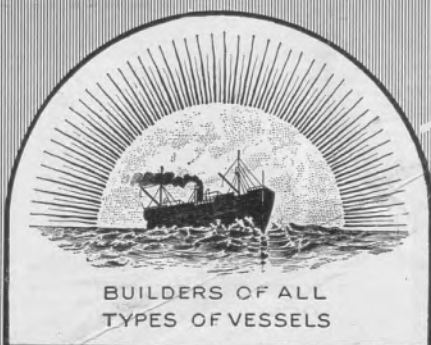
DOXFORD AND



MOTORSHIP "DOMINION MILLER"

PHILADELPHIA OFFICE
FINANCE BUILDING

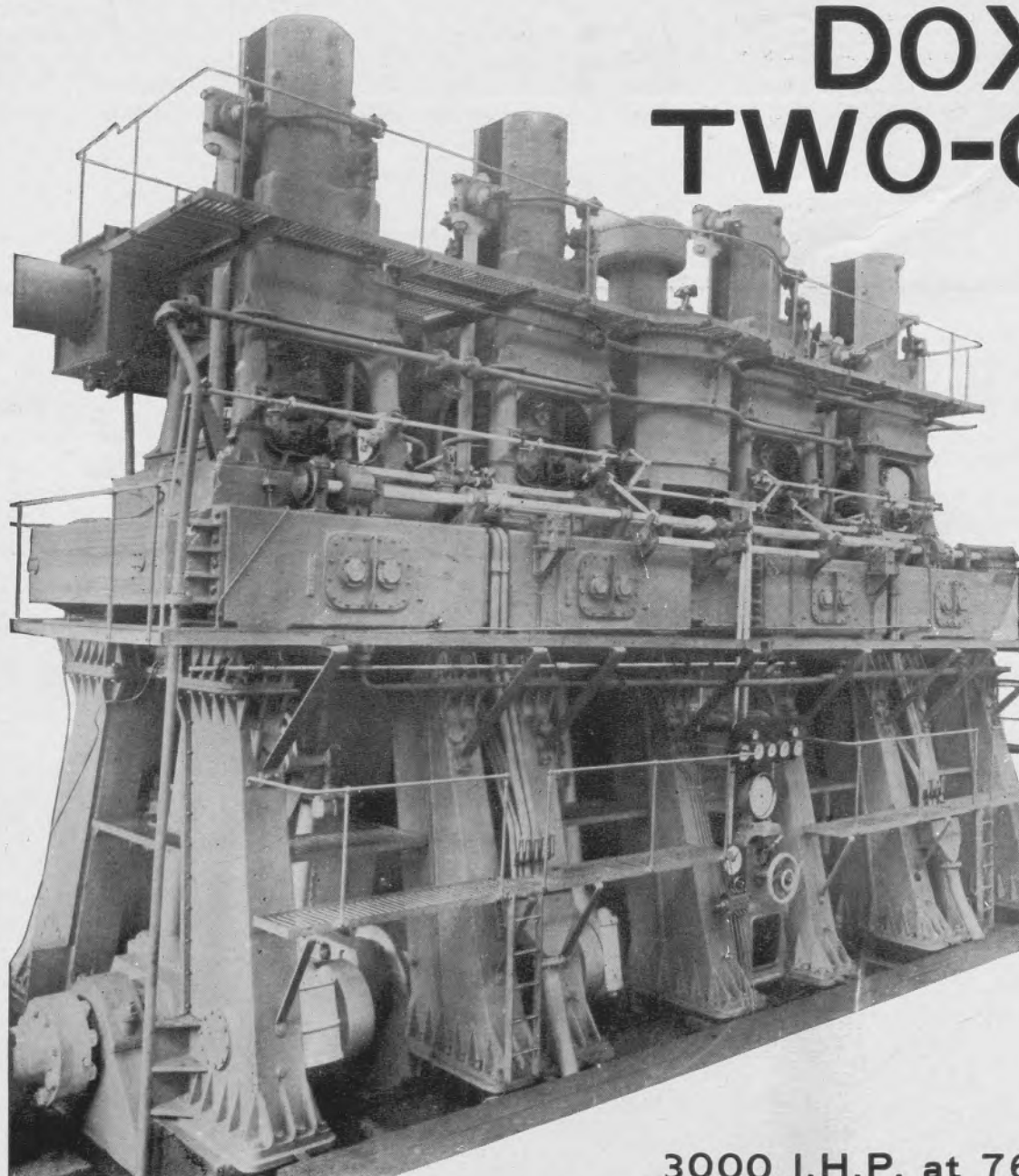
MAIN OFFICE
CHESTER



SUN SHIP DIESEL

BUILDERS A

DOXFORD TWO-CYCL



3000 I.H.P. at 76 R.P.M.
ON SINGLE SCREW

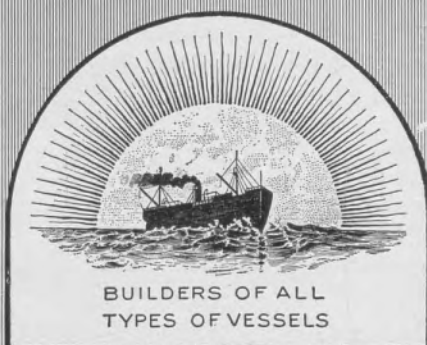
DOXFORD AN



MOTORSHIP "DOMINION MILLER"

PHILADELPHIA OFFICE
FINANCE BUILDING

MAIN OFF
CHESTE

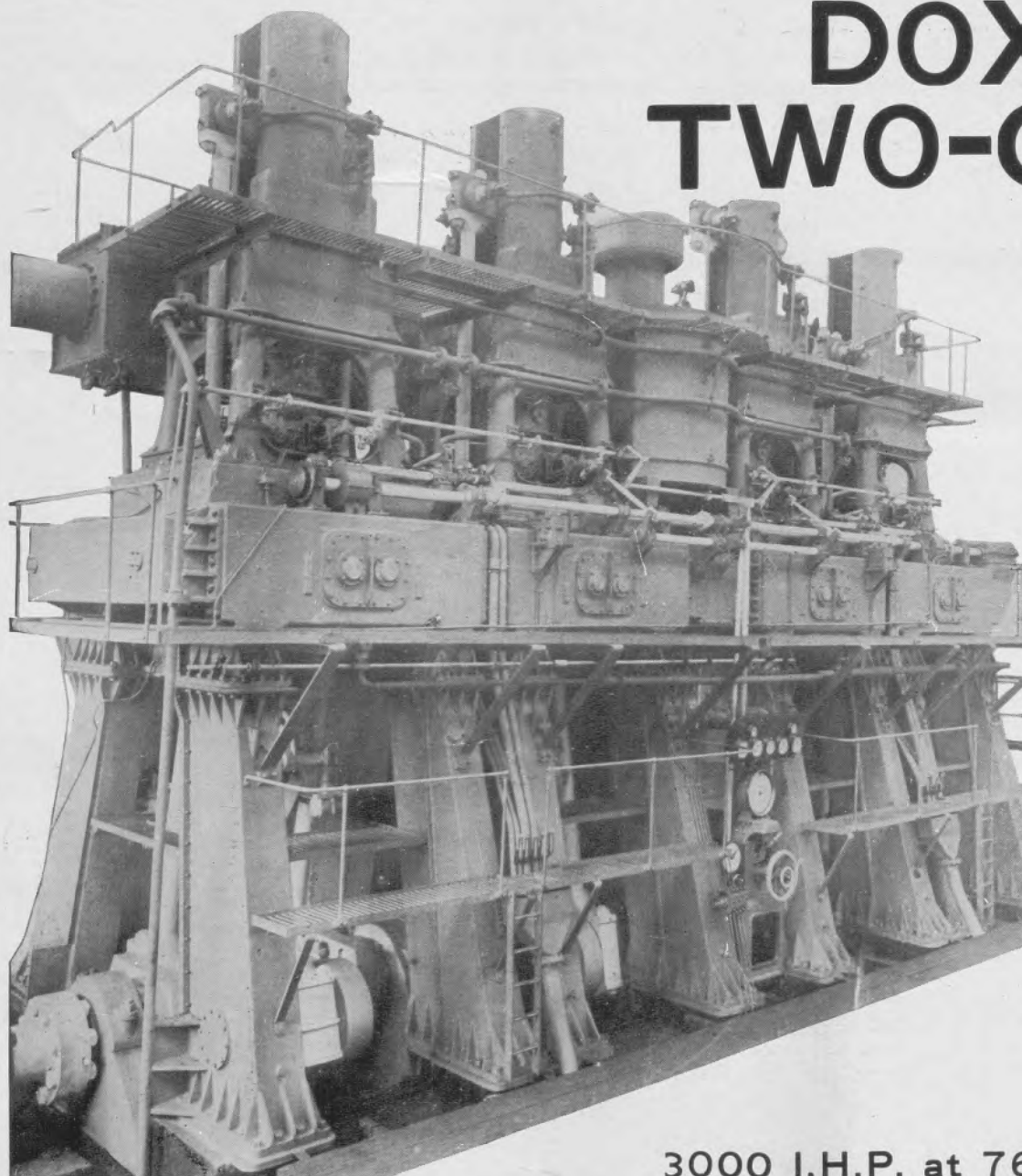


BUILDERS OF ALL
TYPES OF VESSELS

SUN SHIP DIESEL

BUILDERS AND

DOXFORD TWO-CYCLE



3000 I.H.P. at 76 R.P.M.
ON SINGLE SCREW

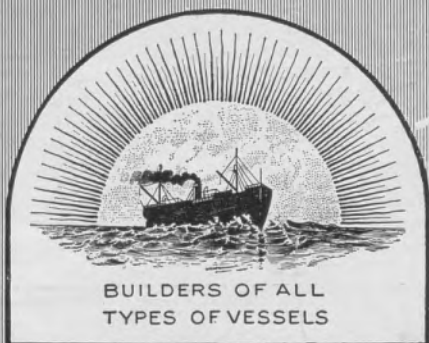
DOXFORD AND



MOTORSHIP "DOMINION MILLER"

PHILADELPHIA OFFICE
FINANCE BUILDING

MAIN OFFICE
CHESTER

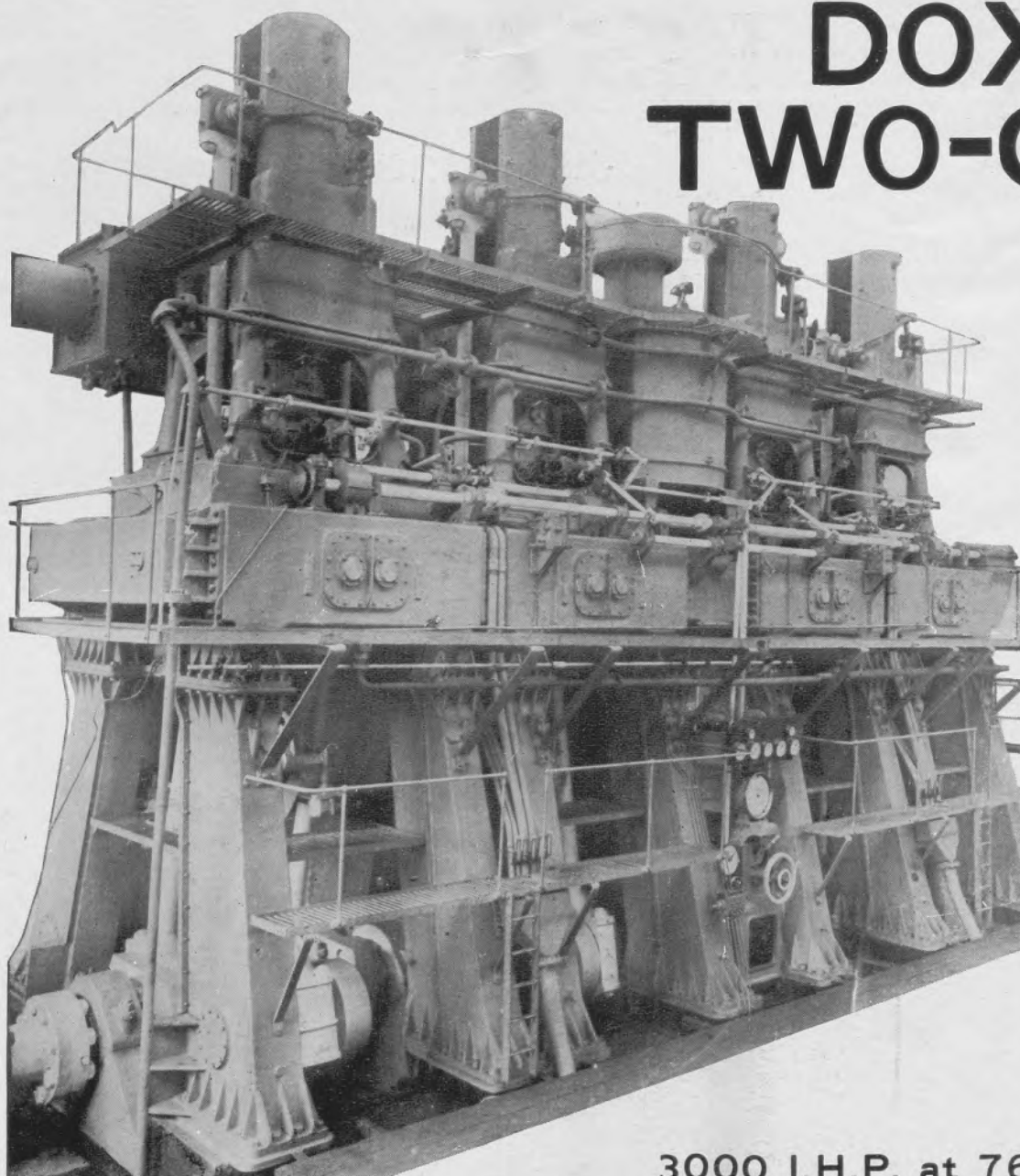


BUILDERS OF ALL
TYPES OF VESSELS

SUN SHIP DIESEL

BUILDERS AND

DOXFORD TWO-CYCLE



3000 I.H.P. at 76 R.P.M.
ON SINGLE SCREW

DOXFORD AND



MOTORSHIP "DOMINION MILLER"

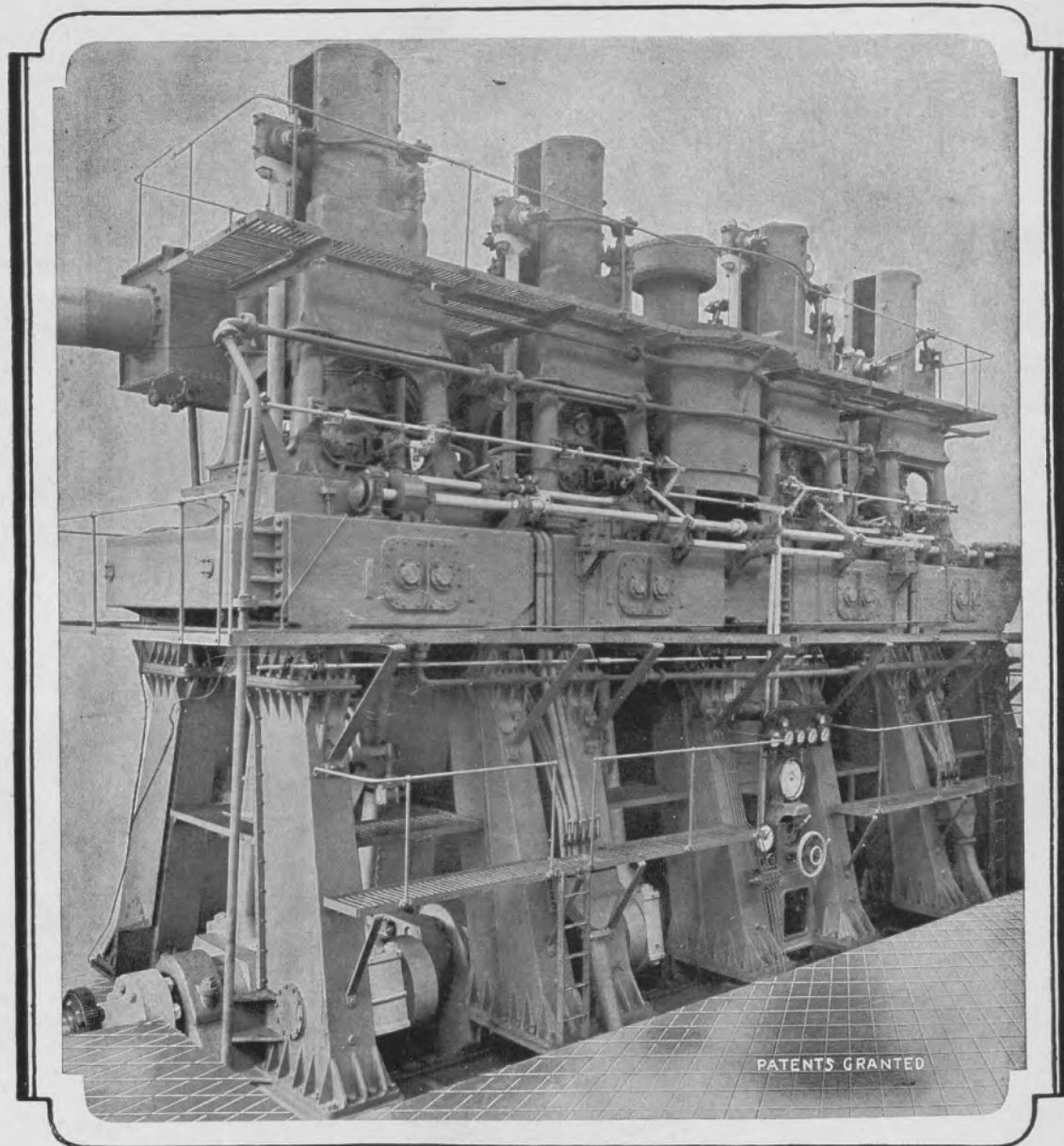
PHILADELPHIA OFFICE
FINANCE BUILDING

MAIN OFFICE
CHESTER

SUN SHIPBUILDING DIESEL



Builders and Sol
SUN - DOXFORD
TWO - CYCLE



3000 I. H. P. at 76 R. P. M.
ON SINGLE SCREW

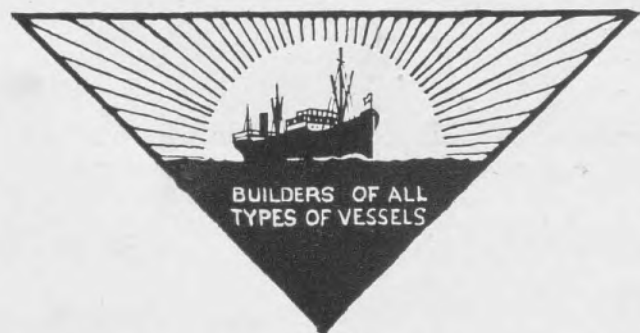


SUN - DOXFORD AND

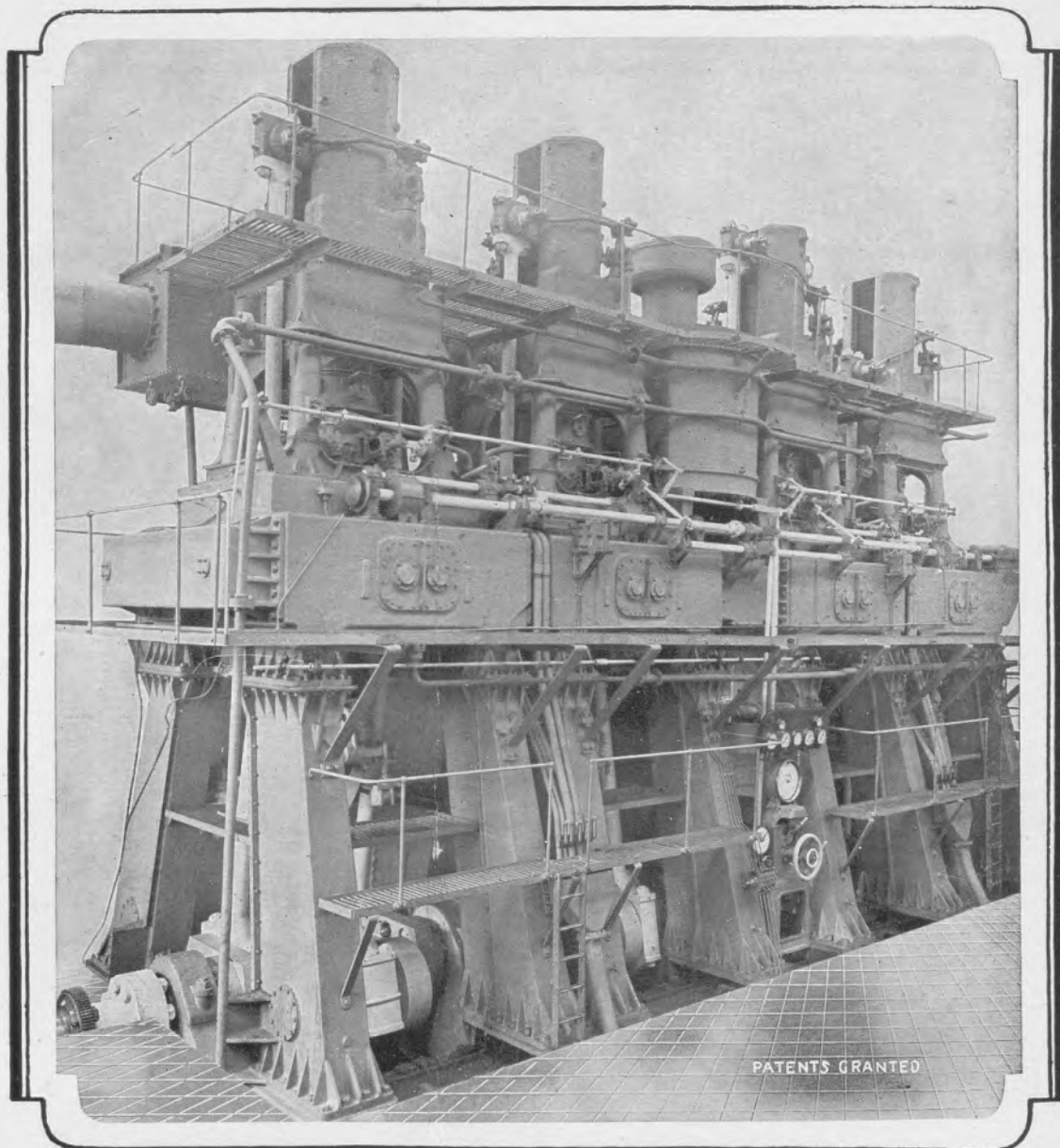
PHILADELPHIA OFFICE
FINANCE BUILDING

MAIN OFFICE
CHESTER, P.

SUN SHIPBUILDING DIESEL



Builders and Sol
SUN - DOXFORD
TWO - CYCLE



3000 I. H. P. at 76 R. P. M.
ON SINGLE SCREW



SUN - DOXFORD AND

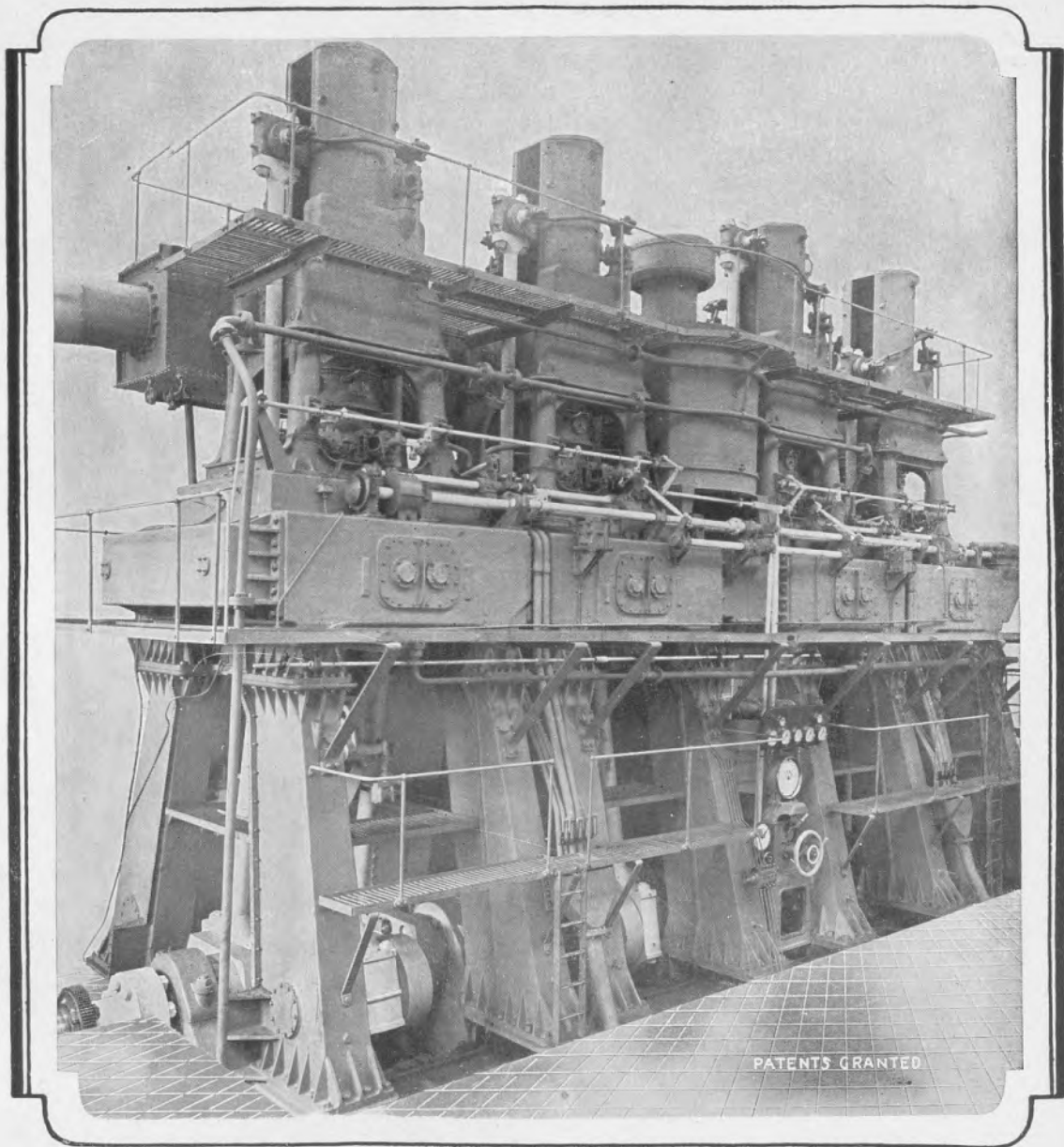
PHILADELPHIA OFFICE
FINANCE BUILDING

MAIN OFFICE
CHESTER, P.

SUN SHIPBUILDING DIESEL



Builders and Sole
SUN - DOXFORD
TWO - CYCLE



3000 I. H. P. at 76 R. P. M.
ON SINGLE SCREW



SUN - DOXFORD AND

PHILADELPHIA OFFICE
FINANCE BUILDING

MAIN OFFICE
CHESTER, PA.



M.S. Twin Ports, First Refrigerator Ship on the Great Lakes

**BRUNSWICK
KROESCHELL**
REFRIGERATING
AND
ICE MAKING MACHINERY

"The Standard for all marine installations"

installed on
M. S. Twin Ports
and
M. S. Twin Cities
also on
M. S. Steelmotor
and
M. S. Steelvender

Brunswick-Kroeschell Dominate

Brunswick-Kroeschell Refrigerating and Ice Making Machinery is the standard of the marine field; practically every new Motorship built is equipped with this tried and proven equipment.

Take the case of the remarkable Lake and Canal carriers—the M.S. Twin Ports and the M.S. Twin Cities—not only are these efficient transportation units equipped with a Brunswick-Kroeschell Refrigerating unit for the Steward's Stores, but each ship is equipped with a B-K unit for refrigerating the holds, as these ships are capable of carrying TWELVE CAR LOADS of perishable merchandise from Duluth to New York and delivering quicker and in better condition than by any other route.

The Brunswick-Kroeschell equipment on these two ships is absolutely RELIED UPON to preserve this large quantity of perishable freight in prime condition for the duration of the trip—and it does it in that dependable, efficient and economical manner which has come to be associated with all Brunswick-Kroeschell units. This is an instance where constant day-in and day-out service is necessary and B-K Ice Machines are built for just that.

It is also an interesting side-light on the dominance of Brunswick-Kroeschell Refrigerating Machinery in their marine field to note that the M.S. Steelmotor and the M.S. Steelvender, owned by the United States Steel Corporation, are likewise B-K equipped.

BRUNSWICK-KROESCHELL COMPANY

New Brunswick, N. J.

Chicago, Ill.

Baltimore, Md.
Boston, Mass.

Chico, Cal.
Cleveland, Ohio

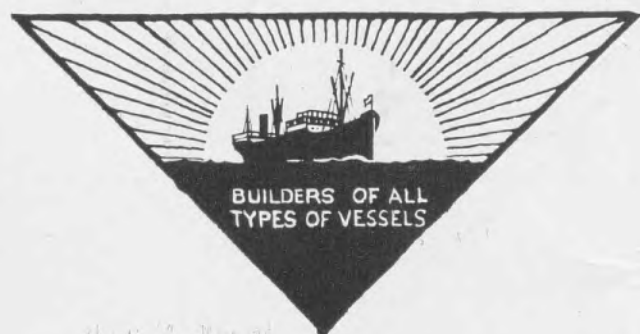
Detroit, Mich.
Jacksonville, Fla.

New Orleans, La.
New York, N. Y.

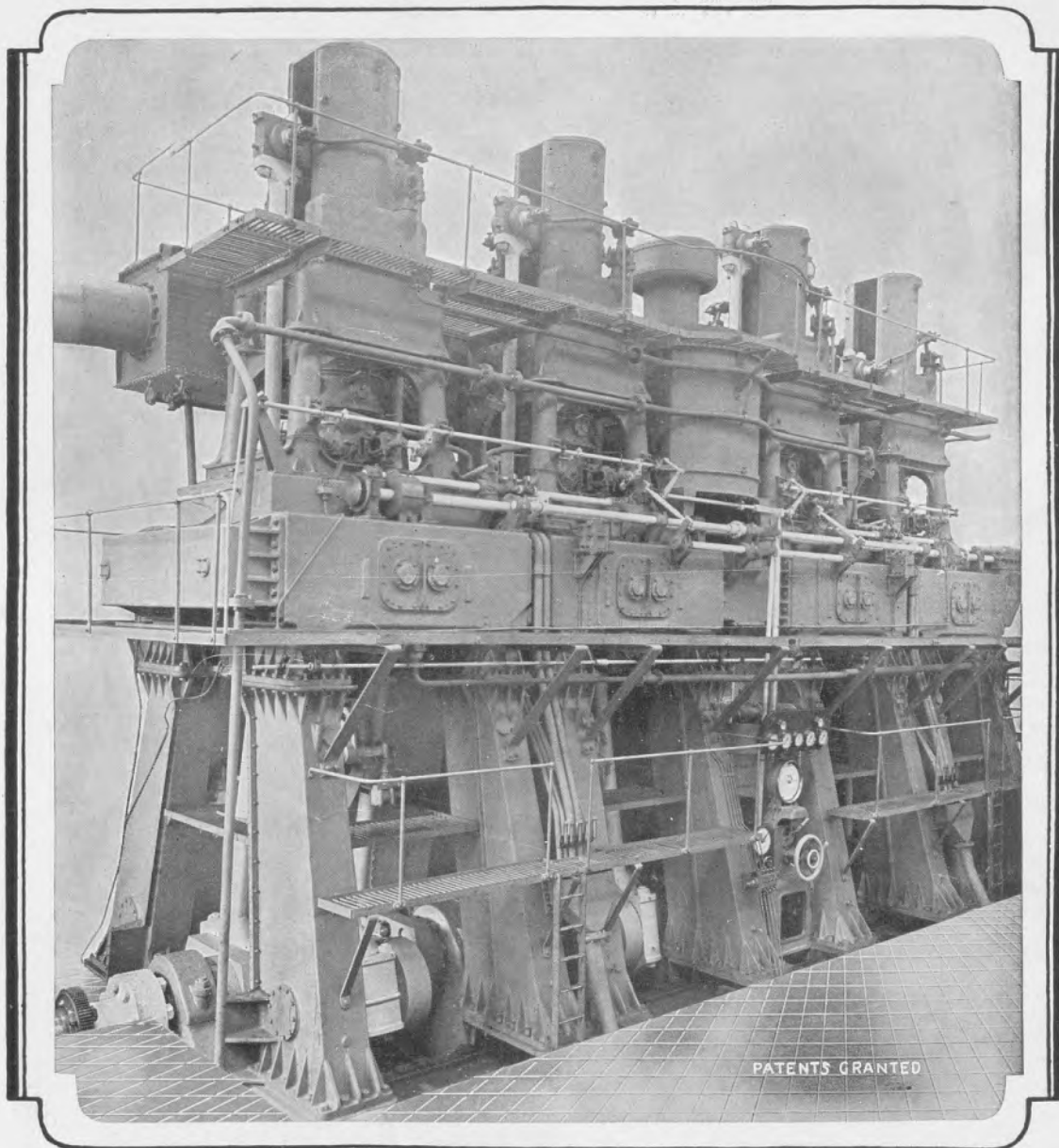
Philadelphia, Pa.
San Francisco, Cal.

Seattle, Wash.

SUN SHIPBUILDING DIESEL



Builders and Sol
SUN - DOXFORD
TWO - CYCLE



3000 I. H. P. at 76 R. P. M.
ON SINGLE SCREW



SUN - DOXFORD AND

PHILADELPHIA OFFICE
FINANCE BUILDING

MAIN OFFICE
CHESTER, P.

PALMERS SHIPBUILDING & IRON COMPANY, L^{TD}

HEBBURN AND JARROW

ENGLAND

BUILDERS OF ALL CLASSES OF VESSELS

with Reciprocating, Turbine
or
Internal Combustion Engines

Six Cylinder - Three Unit Engines of 3,000
B. H. P. Two-Cycle Opposed Piston Type
now Building.

Large Shipyards, Engine and Boiler Works
Iron and Steel Works, Forge, Iron and
Brass Foundries and Galvanizing Works.

SHIP ENGINE and BOILER REPAIRERS

Graving Docks:

HEBBURN 700 Feet by 90 Feet
JARROW 440 Feet by 70 Feet

Nearly 1,000 vessels of all descriptions have been constructed
to date, from the largest class of warship for the British
Government to the smallest class for the Mercantile Marine.

First steamer built in 1852 and still running

ADDRESS:

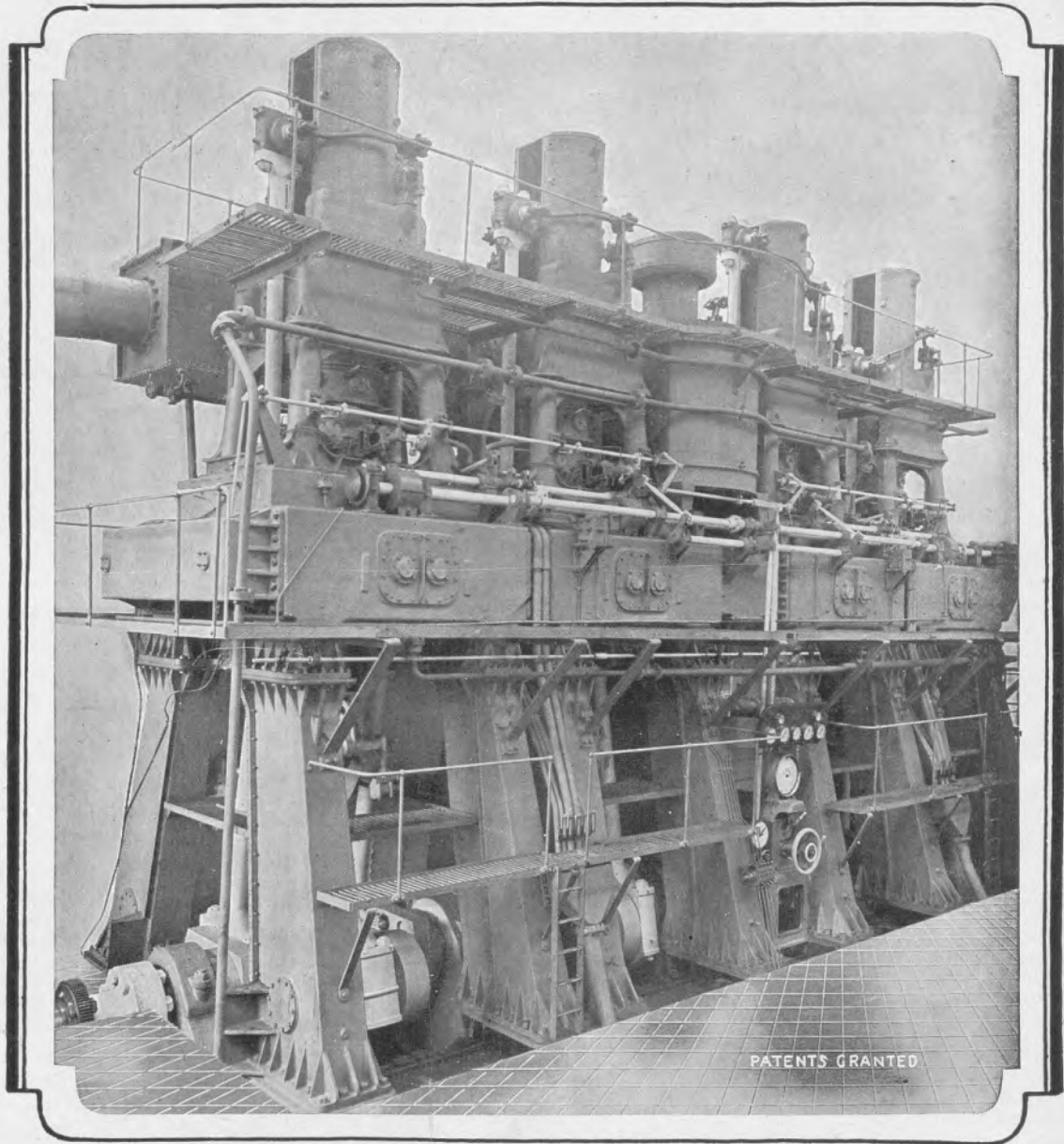
PALMERS SHIPBUILDING & IRON CO., LTD. HEBBURN, ENGLAND

TELEGRAMS: PALMERS HEBBURN

SUN SHIPBUILDING DIESEL



Builders and Sol
SUN - DOXFORD
TWO - CYCLE



3000 I. H. P. at 76 R. P. M.
ON SINGLE SCREW



SUN - DOXFORD AND

PHILADELPHIA OFFICE
FINANCE BUILDING

MAIN OFFICE
CHESTER, P.

"MOTORSHIP" for December, 1923. Vol. 8. No. 12. A monthly journal published by Motorship, at 27 Pearl St., New York City. Subscription three dollars the year, domestic; three dollars, fifty cents foreign. Entered as second-class matter at the Post Office at New York, N. Y., U. S. A., July, 1918, under Act of March 3rd, 1879. Office of publication, 27 Pearl St., New York City.

DRY DOCK COMPANY ENGINES

Licensee of the
**PROPOSED PISTON
OIL - ENGINE**



FLOATING DRY-DOCK
10,000 TONS LIFTING CAPACITY

HUNKERS PATENTS

WORKS
U. S. A.

NEW YORK OFFICE
CUNARD BUILDING



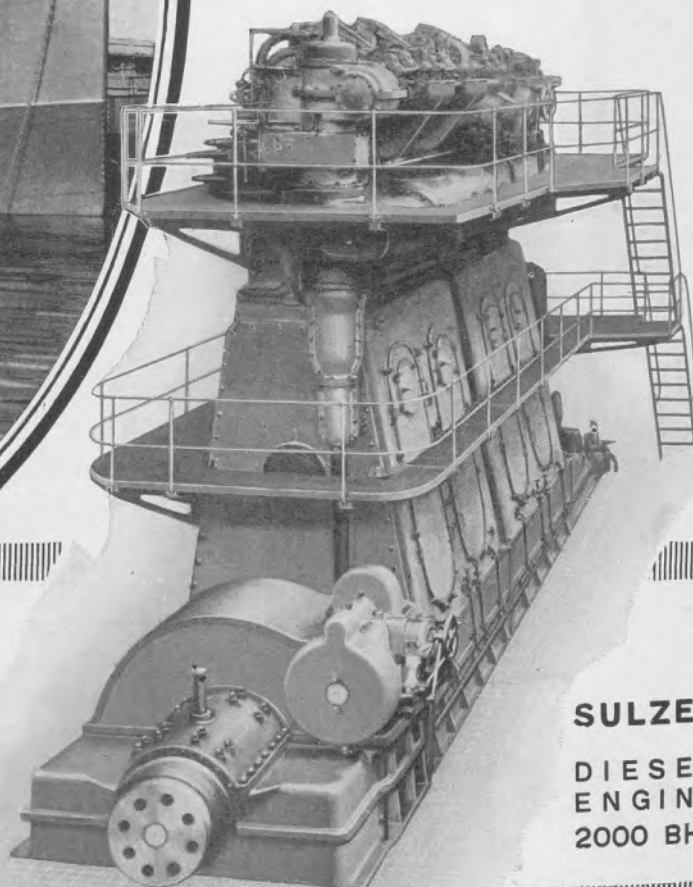
Sulzer

Two-Cycle Marine Engines



M. S. "Handicap"
Port Arthur, Texas U. S. A.
Loading case oil

Large low-speed types
from 1000 to over 6000 BHP
per unit for ships with one, two
or more propellers, for ocean
going vessels such as cargo-
boats, tankers, liners, etc.



SULZER BROTHERS LTD.
WINTERTHUR, SWITZERLAND

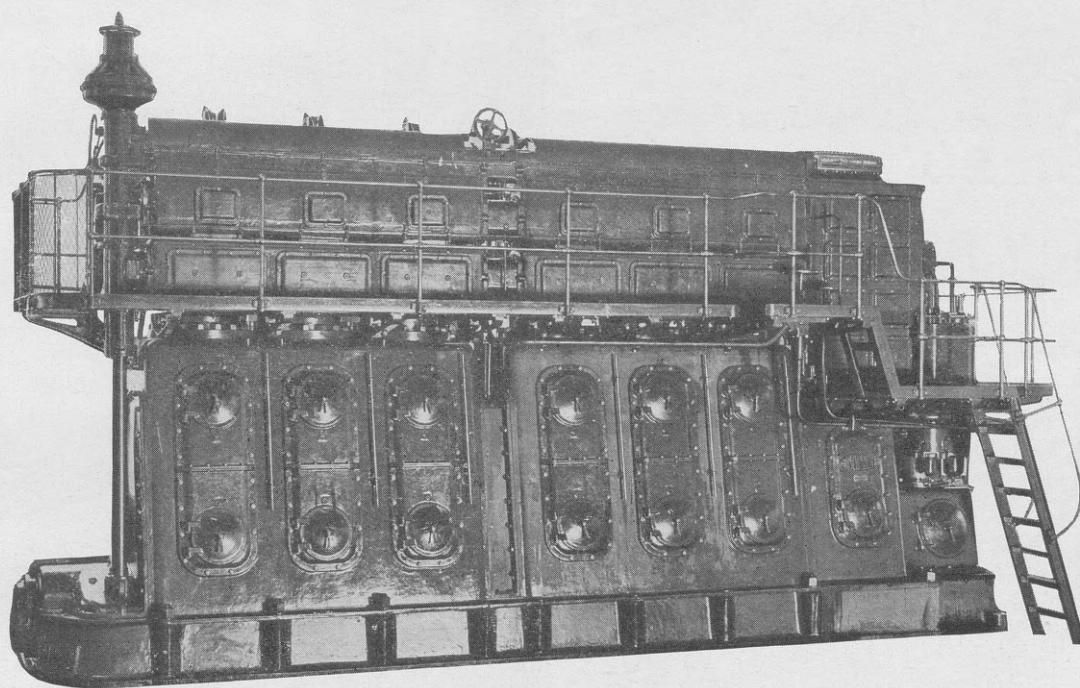
BUSCH-SULZER BROS.
DIESEL ENGINE Co. ST. LOUIS, MO.

SULZER
DIESEL
ENGINE
2000 BHP

25 YEARS

1898 1923

AMERICAN DIESEL EXPERIENCE



TWO CYCLE-MARINE TYPE—550 to 5000 S.H.P.

The *Original*, and from 1898 to 1911 the only, *American Manufacturer of Diesel Engines*, the *Busch-Sulzer Bros.-Diesel Engine Company* is guided in design, selection of materials, and workmanship by 25 years of its own experience in building over 600 *Diesel Engines*, including two-cycle marine units up to 2,500 shaft horsepower—and by the experience of the well-known Swiss firm, *Sulzer Freres*, with whom it is in partnership affiliation.

BUSCH - SULZER BROS. - DIESEL ENGINE CO
ST. LOUIS, MO.

EASTERN SALES OFFICE
60 BROADWAY, NEW YORK

WESTERN SALES OFFICE
RIALTO BLDG., SAN FRANCISCO

NELSECO DIESEL ENGINES

SIZES
FOR EARLY DELIVERY
120 H.P., 180 H.P.
240 H.P., 360 H.P.
480 H.P.

600-750 B.H.P., 225 R.P.M., 4 cycle, 6 cylinder
HEAVY-DUTY MARINE OR STATIONARY DIESEL ENGINE



New London Engine Company
Groton, U.S.A.



New York Show Rooms
"PORT ELCO"
247 Park Avenue
—and—
107 East 46th Street

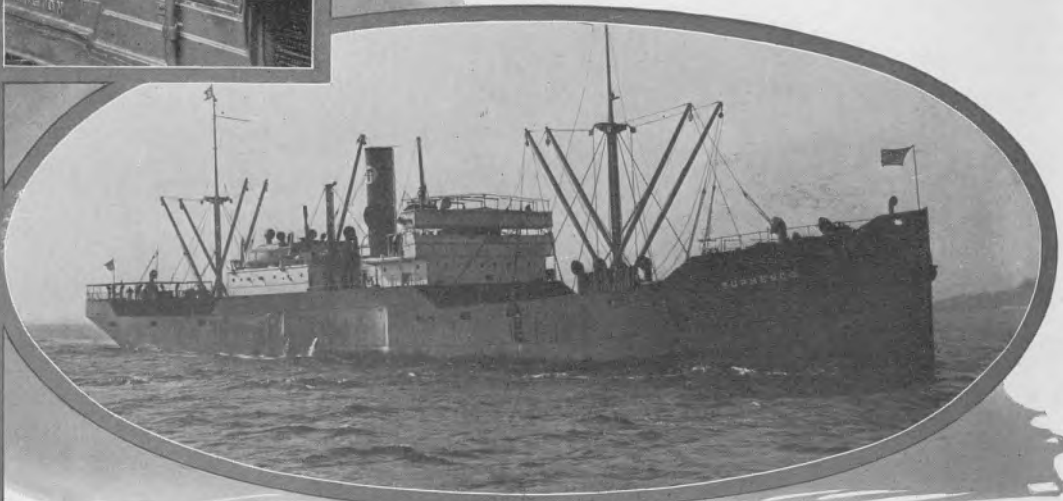
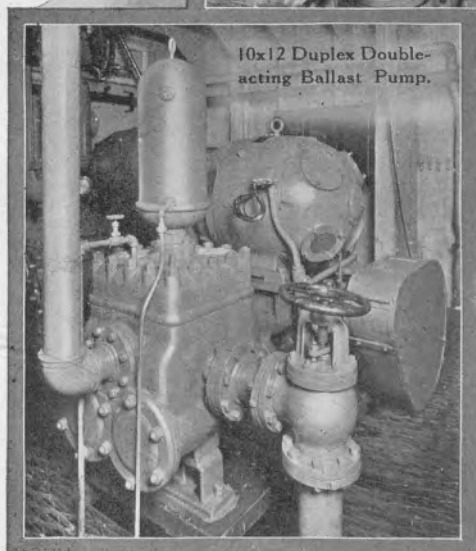
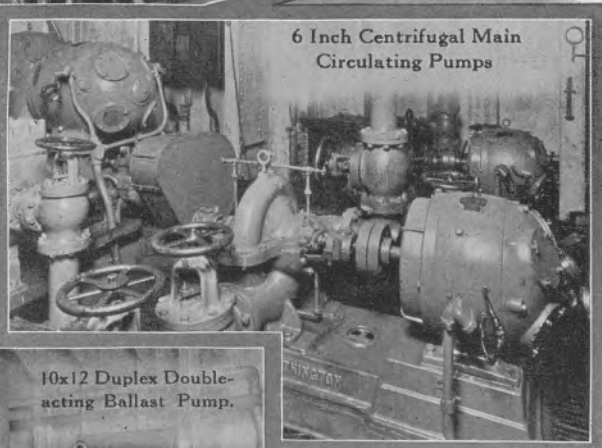
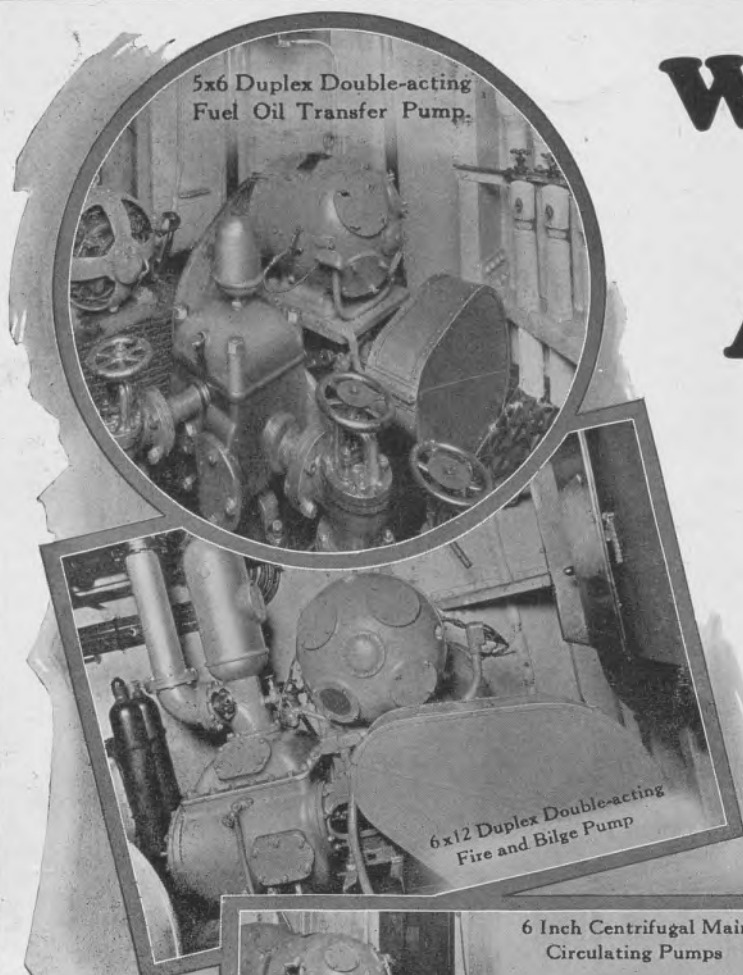
WORTHINGTON MOTORSHIP AUXILIARIES

On the SUPHENCO too

The following Worthington motorship auxiliary equipment is being used on the new M. S. Suphenco:

- (2) 6 Inch Centrifugal Main Circulating Pumps.
- (1) 6x12 Duplex Double-acting Fire and Bilge Pump.
- (1) 10x12 Duplex Double-acting Ballast Pump.
- (1) 5x6 Duplex Double-acting Fuel Oil Transfer Pump
- (1) 2-1/2 Inch Centrifugal Sanitary Pump.
- (1) 1 Inch Centrifugal Scuttle-butt Pump.
- (1) 1 Inch Centrifugal Fresh Water Pump.

This is another case where Worthington equipment was selected for the engine room auxiliaries.



WORTHINGTON PUMP AND MACHINERY CORPORATION

Executive Offices: 115 Broadway, New York City Branch Offices in 24 Large Cities

W-288.8

WORTHINGTON

Deane Works, Holyoke, Mass.

Blake & Knowles Works

East Cambridge, Mass.

Worthington Works

Harrison, N. J.

Laidlaw Works, Cincinnati, Ohio.

Hazleton Works,

Hazleton, Pa.

Gas Engine Works, Cudahy, Wis.

Power & Mining Works

Cudahy, Wis.

Snow-Holly Works

Buffalo, N. Y.

Epping-Carpenter, Pittsburgh, Pa.



DOXFORD

OPPOSED-PISTON

TWO-STROKE

MARINE OIL ENGINE

SOLID-INJECTION

PERFECT COMBUSTION WITH CRUDE-OILS

36,000 HORSE-POWER BUILT AND BUILDING FOR
120,000 TONS SINGLE-SCREW BRITISH AND FOREIGN TONNAGE

REPORTS FROM THREE 9000 TON MOTOR VESSELS

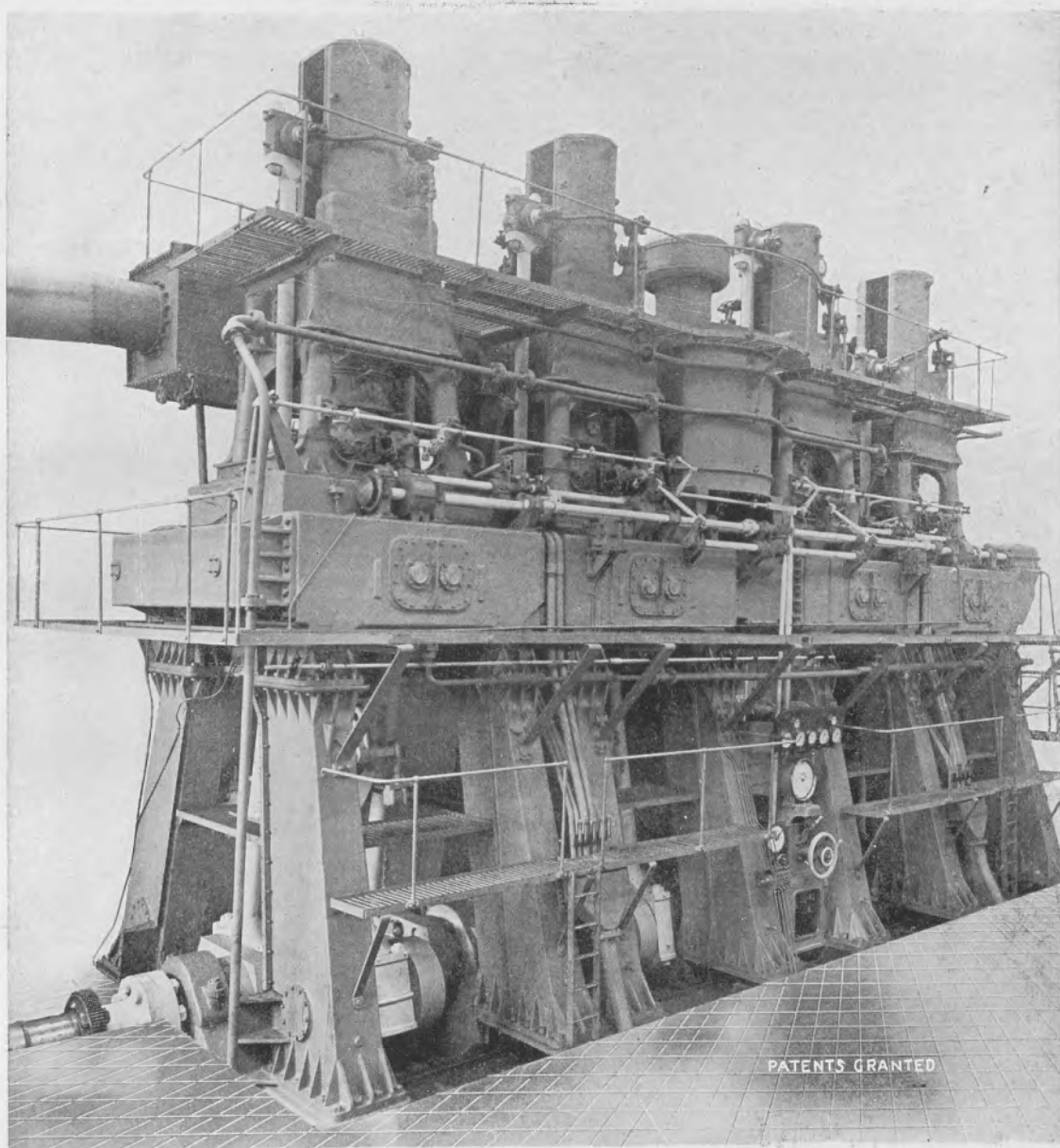
"YNGAREN"

ON 5TH VOYAGE. AUSTRALIA. 10½ KNOTS. 7¼ TONS CONSUMPTION.

"DOMINION MILLER" ON 7TH VOYAGE. N. ATLANTIC. 10¾ KNOTS. 8 TONS CONSUMPTION.

"EKNAREN"

ON 1ST VOYAGE. AUSTRALIA. 11.2 KNOTS. 7½ TONS CONSUMPTION.



PATENTS GRANTED

3000 H. P. SINGLE-SCREW 77 REVS.
WILLIAM DOXFORD & SONS, LTD.
SHIPBUILDERS, ENGINEERS AND GOVERNMENT CONTRACTORS
SUNDERLAND
ENGLAND

TEL. ADDRESS:
"DOXFORD SUNDERLAND"

TEL. NOS.
1800, 1801, 1802, 1803

Winton

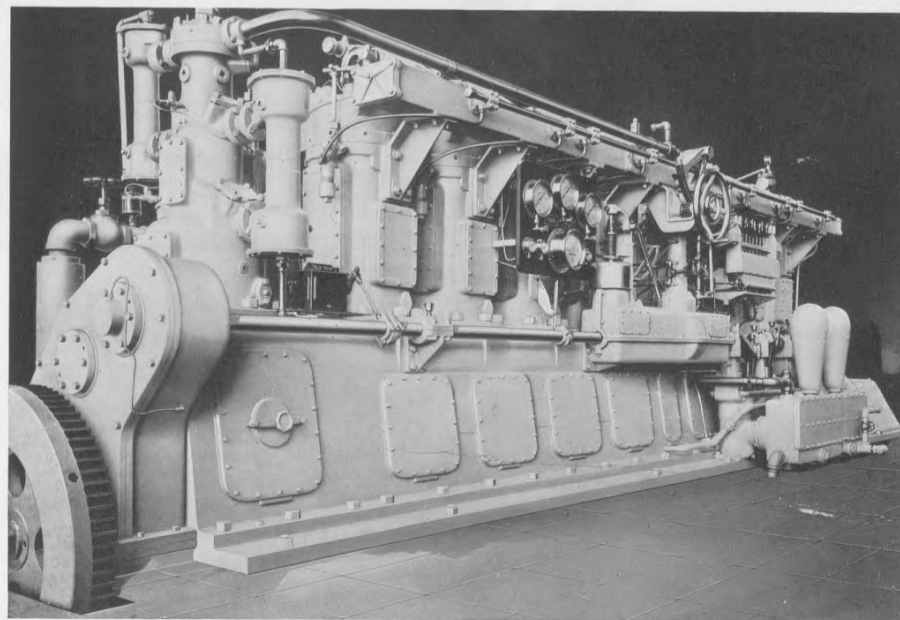
OIL DIESEL TYPE ENGINES

The Transportation Service of the United States War Department has SEVEN (7) Diesel Driven River Vessels, duplicates of the boat illustrated herewith, in active cargo and passenger service and giving splendid accounts of themselves.

Whittelsey & Whittelsey, Naval Architects, Newport Shipbuilding Corp., Wilmington, N. C., Builders. All seven vessels are 155'x28'x9' and each ship is equipt with a pair of eight cylinder Model 40 WINTON Diesel Oil Engines. Auxiliary equipment includes a 25 K.W. Winton Oil Engine Generating Set which makes possible the operation of all deck and handling machinery electrically.

Speed 15 knots per hour these ships are operated at a fuel cost of 16 cents per mile and are used by the War Department in Sound, Bay and River work in various parts of the country.

Another outstanding example of the economy, dependability and efficiency of Winton Oil Engines in active service. Write for full descriptive catalog.



One of the Winton Diesel Engines used in the War Department Vessels

WINTON ENGINE WORKS

New York—A. G. Griese, Inc., 30 Church St.

Seattle—H. W. Starrett, Sunset Engine Co.

Washington, D. C.—R. L. Fryer, 817 Albee Bldg.

CLEVELAND, OHIO, U. S. A.

Los Angeles, Cal.—F. G. Bryant, 704 Delta Bldg.

New Orleans, La.—A. Baldwin Company

Boston, Mass.—Walter H. Moreton Corp., 780 Commonwealth Ave.

You Pay for Exactly What You Get

REPORT OF TUGBOAT SERVICE

DATE *Nov 22/23*

NAMES OF TUGS
Joe H. Moran
Margaret A. Moran

SERVICE RENDERED
ARRIVED *12* A. M. LOCATION *Pier 86 W*
DISMISSED *12:15* P. M. LOCATION *Stream*

DETENTION:
E. T. Brown MASTER
Wm. J. Healey TUG BOAT CAPTAIN

S. S. *Wm. J. Healey*

MORAN TOWING AND TRANSPORTATION CO.
17 BATTERY PLACE, NEW YORK

PHONE WHITEHALL 1340

"Eugenia M. Moran"—a Diesel Engine Driven Tug



Shipowners and Captains!

THIS Report of Tugboat Service is typical of the careful detail characteristic of the Moran Organization.

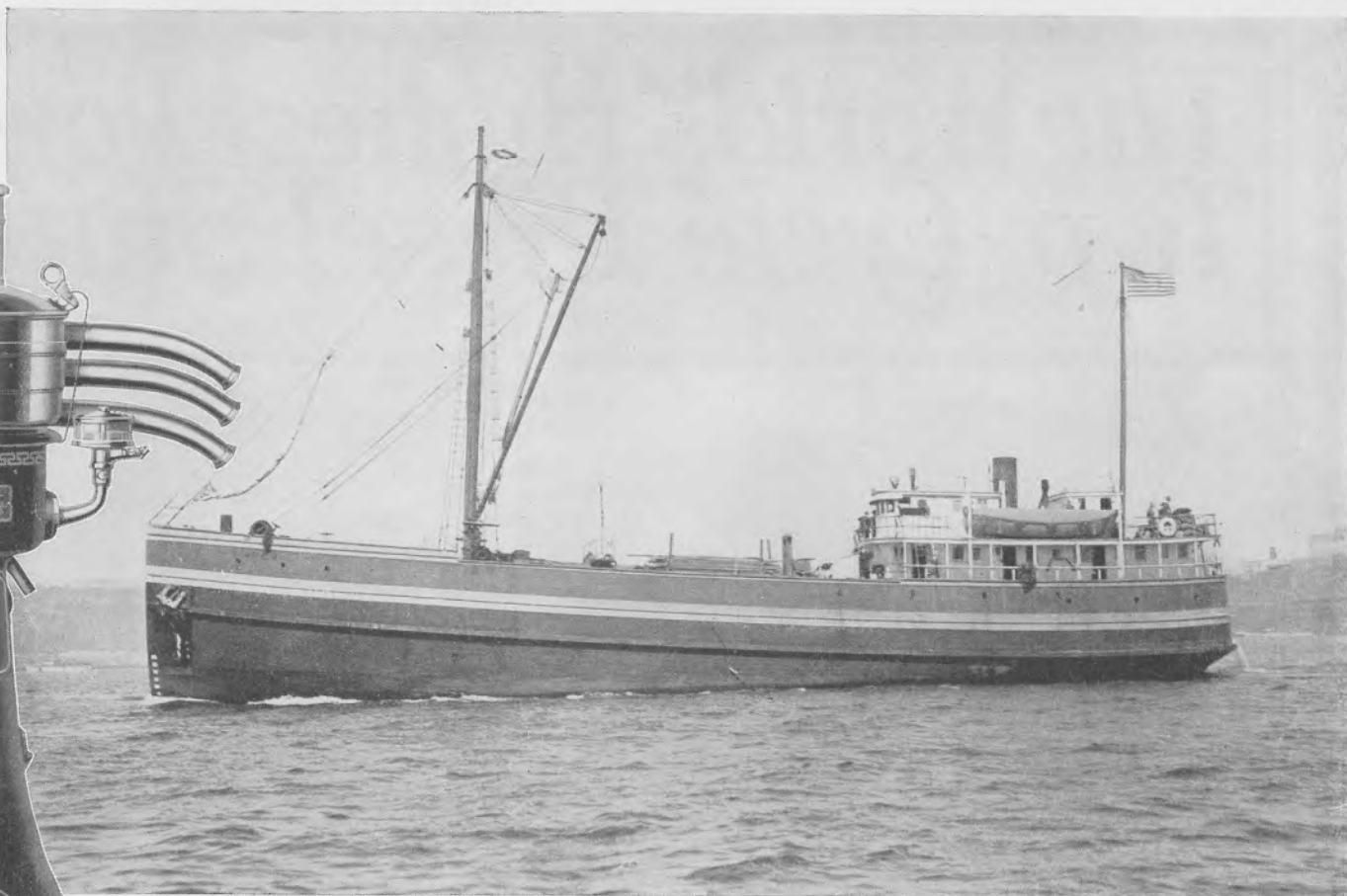
We render a definite, dependable Service promptly on demand and charge exactly for amount of time *actually* put in on YOUR job.

Thoroughly equipped to handle Coastwise and Harbor Towing, this is a large, well organized business capable of rendering you a broad, comprehensive and *satisfactory* service.

Telephones:—
Day:—Whitehall 1340
Night:—South 4468

MORAN TOWING & TRANSPORTATION CO.
17 BATTERY PLACE
NEW YORK

Motorship "Apex"
of Wilson Fisheries
Co., Seattle, Wash.



"Oil Purifier on the 'Apex'"

"There has recently been installed aboard the motorship 'Apex,' of the Wilson Fisheries Company, a centrifugal oil purifier, made by The De Laval Separator Company. This machine cleans all the oil used for lubricating the engines, removing from it any water which may find its way into the system, also all dirt consisting of carbon or metallic particles, all of which tend to destroy the lubricating qualities of the oil and cause considerable wear in the machinery. The economy effected by using such a machine is such as to make it of interest to all who operate engines of the larger sizes.

"The purifier is connected up to the oiling system in such a way that it is continuously cleaning the oil at a rate of 7 to 10 gallons per hour, eliminating all dirt practically as soon as it is formed; and should a water leak suddenly occur, which ordinarily would not be detected until a bad emulsion of oil and water is formed, the purifier will commence discharging water out of the system automatically, safeguarding the propelling machinery at all times."

—Pacific Fisherman.

Keep lubricating oil clean for economical Diesel operation

Most operators of large motorships have long since become converted to the practice of keeping their lubricating oil clean with the De Laval Oil Purifier. Now owners of smaller vessels are also seeing the wisdom of this policy. The paragraphs at the left, which are reprinted from a recent issue of *Pacific Fisherman*, tell what one De Laval Purifier is doing on a comparatively small motorship.

De Laval Oil Purifiers protect Diesels—and turbines, too—against trouble and wear resulting from the use of dirty lubricating oil. At the same time, they greatly reduce lubricating cost by making it possible to keep oil in service until it is lost by decomposition or leakage. No oil need ever be removed from the system.

The De Laval Oil Purifier is totally unlike any other purifying device. It does its work by centrifugal force in so positive a manner that moisture and the most minute solid impurities are instantaneously removed from the oil. The operation of the Purifier is not affected by the motion of the ship while at sea.

Let us tell you how a De Laval will quickly pay for itself on your ship.

The De Laval Separator Company

New York, 165 Broadway

Chicago, 29 East Madison St.

De Laval Pacific Co., San Francisco

Chadburn's (Ship) Telegraph Company, Ltd., Cyprus Road, Bootle, Liverpool

Turbine Equipment Company, Toronto, Ontario, Canada

The Separator Company, Ltd., Stockholm, Sweden

Europe—Asia—Africa—South America

Sooner or later you will use a
De Laval

We would like to know how we can make our engines last longer, practically eliminate lubricating trouble, and save oil. Please send Bulletin as checked below.

☐ Marine turbine ☐ Marine Diesel ☐ Fuel oil

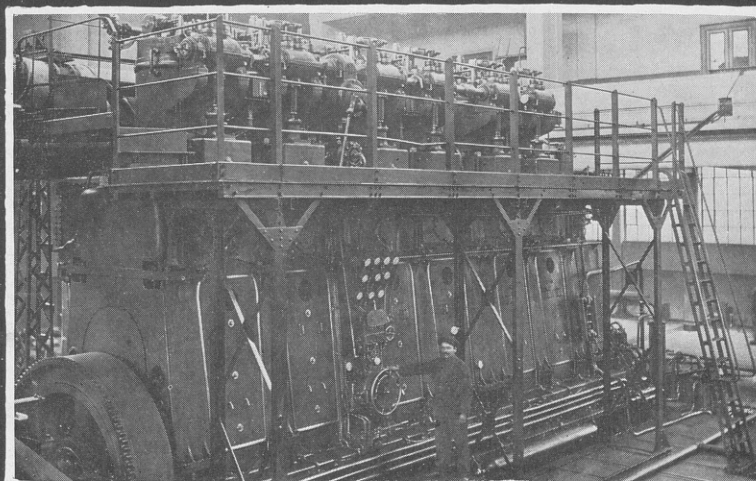
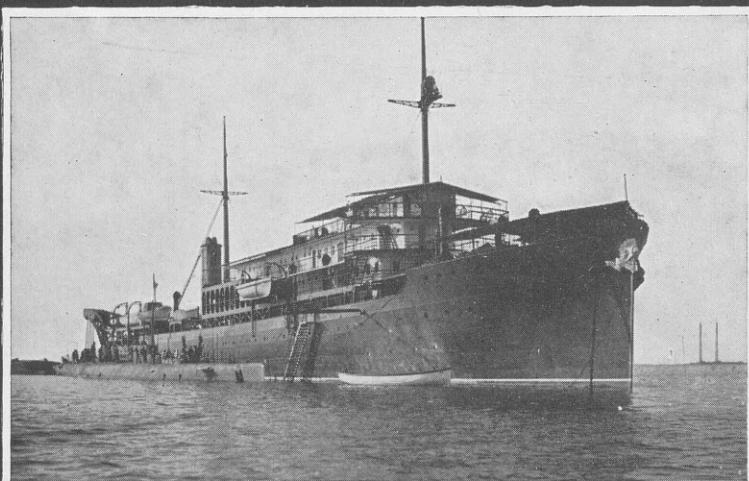
Name

Company

Address

M

The World's Highest Powered Two-Cycle Diesel Ship is a



FIAT Production

TWO six-cylinder FIAT Diesel Engines of 4,600 shaft h. p. aggregate were Installed in the Submarine mother ship **CEARA** (Brazilian Navy) in 1917. To-day she remains the highest two-cycle powered Motorship afloat

*Ten Large Merchant Ships are also Powered
with FIAT Two-cycle Diesel Engines*

FIAT

STABILIMENTO GRANDI MOTORI

FORMERLY THE FIAT-JAN GIORGIO

OIL ENGINE DEPARTMENT

20 VIA CUNEO

TURIN ITALY

TELEGRAPHIC ADDRESS
MOTORFIAT, TORINO, ITALY



The Tugboat "Roland," owned by the Oakland Launch & Tugboat Company.
Powered with a 250 H.P. 4-cylinder Atlas-Imperial full Diesel mechanical injection engine.

The Oakland Launch & Tugboat Company have Atlas-Imperial Diesel Engines installed in the following tugs.

"Colon"	55	H.P.	installed in	May, 1921
"Panama"	125	"	"	" Dec. 1921
"Pirate"	90	"	"	" Apr. 1923
"Roland"	250	"	"	" May, 1923

The following are a few of the firms who have also placed repeat orders:

Hunt Hatch Company, Oakland, Calif.,—5 engines
Rhodes-Jamieson & Company, Oakland, Calif.,—3 engines
San Pedro Transportation Company, San Pedro, Calif.,—4 engines
Peter Wold, Seattle, Washington,—2 engines
San Juan Fish Company, Seattle, Washington,—3 engines
Shaver Transportation Co., Portland, Oregon,—2 engines
Tacoma Tug & Barge Company, Tacoma, Wash.,—2 engines
Western California Fish Co., San Francisco, Calif.,—2 engines
San Francisco International Fish Co., San Francisco, Calif.,—2 engines
Capt. A. E. Anderson, Oakland, Calif.,—2 engines
F. E. Drane, Bandon, Oregon,—4 engines

ATLAS-IMPERIAL ENGINE COMPANY

MAIN OFFICE AND WORKS
Ft. 19th Ave., Oakland, Calif.

FACTORY No. 2
163 Main St.
San Francisco

BRANCH OFFICES
115 Broad St.
New York City

908 Spalding Bldg.
Portland, Oregon

SALES REPRESENTATIVES

SEATTLE, WASHINGTON
Atlas Gas Engine Agency
901 Western Ave.

SAN DIEGO, CALIF.
West Coast Gas Engine Co.

SAN PEDRO, CALIF.
Garbut & Walsh
Box 212

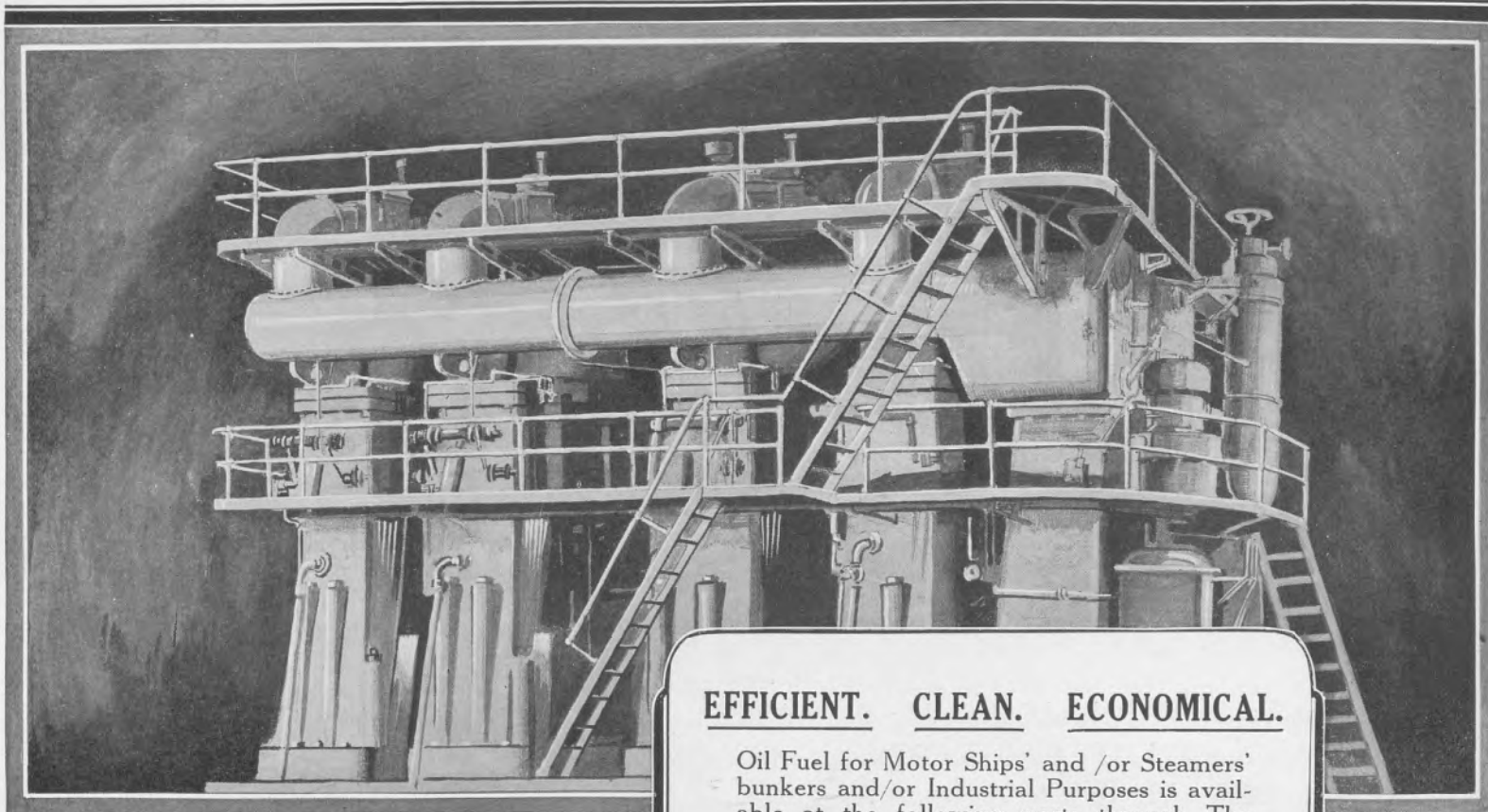
NEW ORLEANS, LA.
James G. Davis
1224 Music St.

HONOLULU, T. H.
Honolulu Welding
and Machine Works

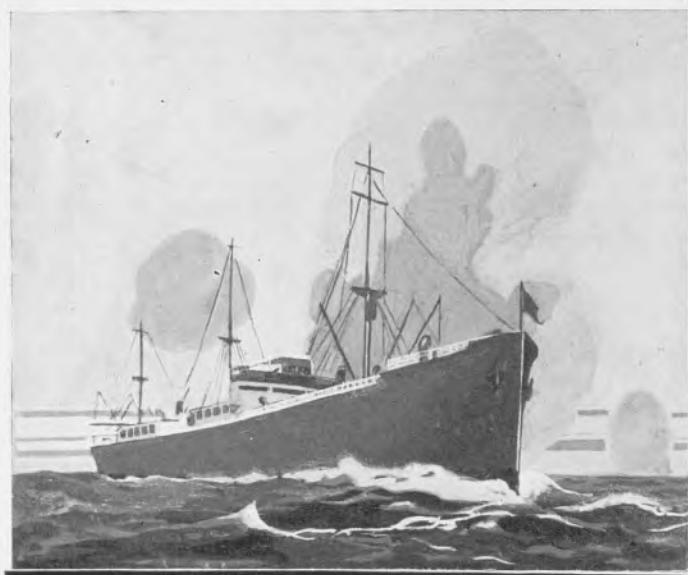
VANCOUVER, B. C.
Ferrier and Lucas
426 Howe St.

HABANA, CUBA
Laza Trading Co.
Empedrado 6
SUVA, FIJI
Morris-Hedstrom, Ltd.
PAPEETE, TAHITI
Et. Davio

OIL FUEL



*The Power behind the
Modern Engine Room*



EFFICIENT. CLEAN. ECONOMICAL.

Oil Fuel for Motor Ships' and /or Steamers' bunkers and/or Industrial Purposes is available at the following ports through The Asiatic Petroleum Company Limited.

*Adelaide	*Hong Kong	Portland (Oregon)
*Alexandria	*Hurghada	Port Said
*Amsterdam	*Ichang	*Port Sudan
*Antofagasta	*Iquique	Puerto, Mexico
†Antwerp	*Jarrow-on-Tyne	*Pulo Bukom
*Aomori	*Karachi	*Puloe Samboe
*Avonmouth	*La Guayra (Venezuela)	*Rio de Janeiro
Balboa (Panama Canal)	Las Palmas	*Rotterdam
*Balik Pappan	†Leghorn	*Rouen
*Bangkok	*Lisbon	*Sabang
*Barcelona	*Liverpool	*Saigon
Barrow	*London (Shell Haven and Thames Haven)	*St. Vincent
*Barton (Manchester Ship Canal)	*Macassar	*Saitozaki
*Batavia	*Madras	*San Francisco
*Bilbao	*Malmo	San Pedro
*Boelebaai Ceram	*Malta	Santos
*Bombay	*Manila	Seattle (Washington)
*Buenos Ayres	*Maracaibo (Venezuela)	*Shanghai
*Calcutta	*Marseilles	*Singapore
*Canton	*Melbourne	*Sourabaya
*Cape Town	*Miri	*Southampton
*Cebu	*Mombasa	†Stockholm
†Christiania (Soon)	*Montevideo	*Suez
*Colombo	*Montreal	*Svolvær
Colon (Panama Canal)	*Nagasaki	*Sydney
†Copenhagen	*New Orleans	*Tampico
*Curacao	*New York	*Tarakan
*Genoa	*Palembang	*Tocotilla
*Gibraltar	†Palermo	Trieste
*Glasgow	*Pangkalan Berandan	*Trinidad
*Gothenburg	*Penang	Tuxpan
*Granton	*Perim	*Vado
*Hamburg	*Pernambuco	Valparaiso
*Hankow	*Piraeus	Vancouver
Havana	*Portishead	Venice
		Vera Cruz
		*Yokohama

*Diesel Oil as well as Fuel Oil available.
†Gas Oil only available

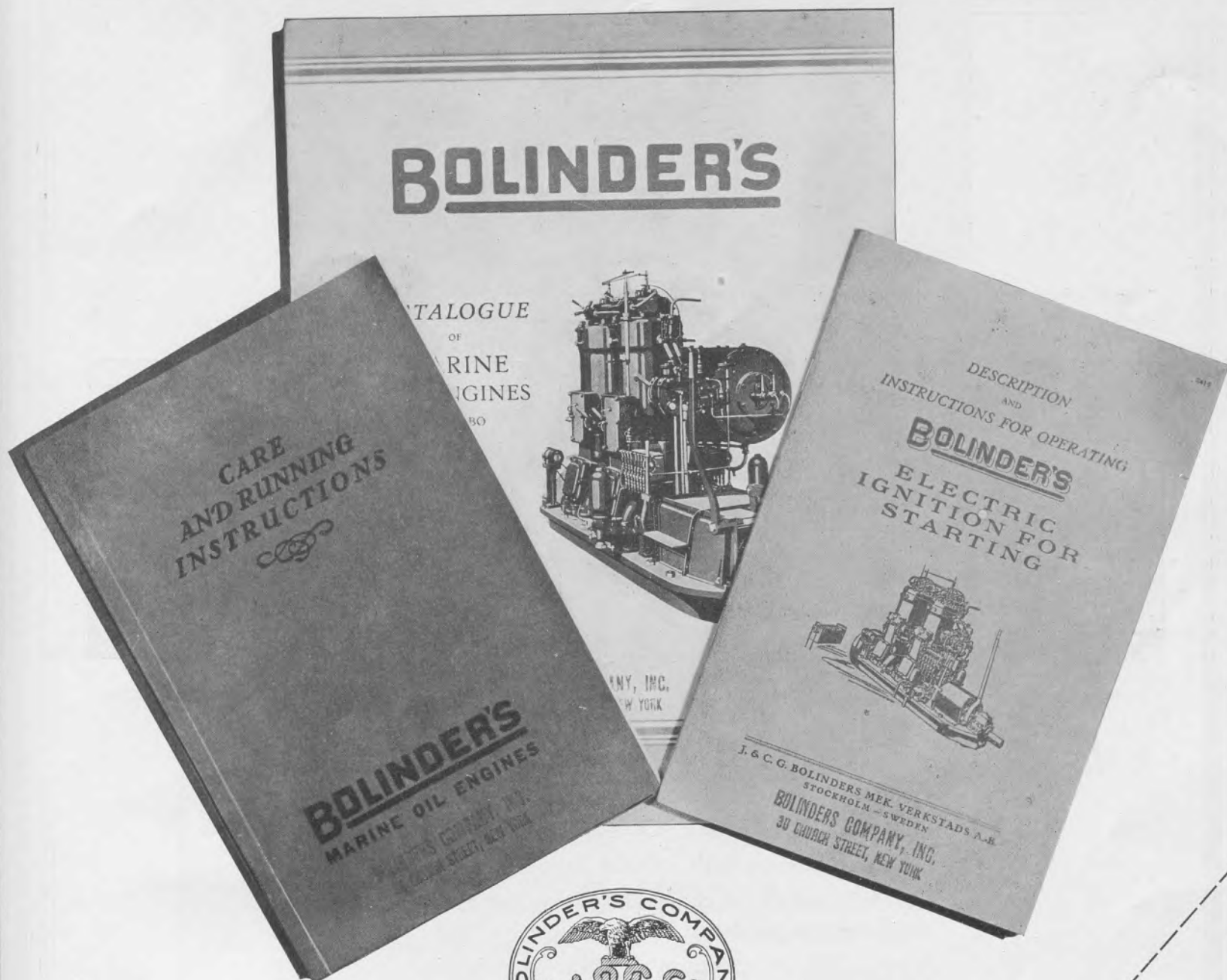
New Stations are expected to be ready shortly at:
Havre San Juan (Porto Rico)

BUYERS desiring information regarding supplies of and price for Oil Fuel for use in Internal-combustion Engines or for other purposes should apply to The Asiatic Petroleum Co., Ltd., at the address below.

THE Asiatic Petroleum Company also supply Kerosene Oil for use in the smaller Internal-combustion Engines and are prepared to supply Petroleum Spirits, Lubricating Oils, Wax and Greases in all Far Eastern Markets.

THE ASIATIC PETROLEUM CO., LTD.
Saint Helen's Court, Gt. Saint Helen's, London.

BOLINDERS



THREE remarkably interesting books
containing a mass of data on Oil
Engines and Oil Engine installations

BOLINDER'S COMPANY, Inc.
30 CHURCH ST. NEW YORK CITY

NEW ENGLAND SERVICE DEPT. AT
180 STATE ST., BOSTON, MASS.

BOLINDER'S COMPANY, INC.
30 CHURCH ST., NEW YORK CITY

Gentlemen:

Without obligation to me send your catalogues as ad-
vertised in the Motorship.

Name

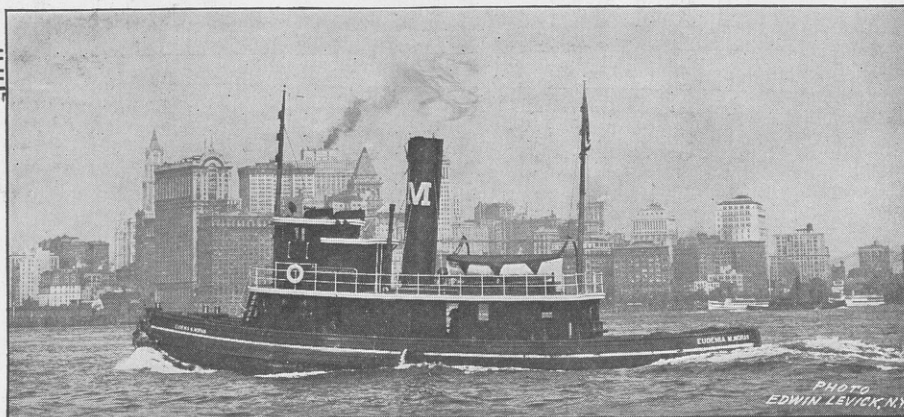
Street

City

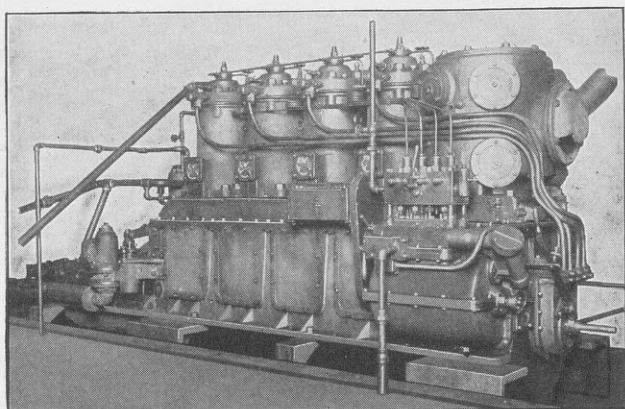
State

TROUT DIESEL H-O ENGINE

(Leissner Combustion System)

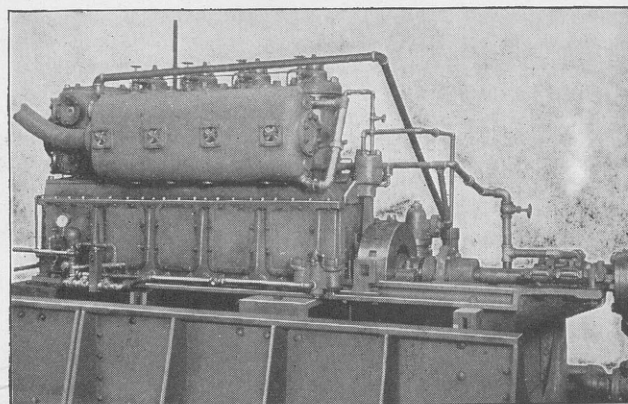


TROUT DIESEL Engined Tug—"EUGENIA M. MORAN"
which has proven very successful in service



Starboard Side of a 100 B.H.P. TROUT DIESEL H-O ENGINE

SIZES
75
to
500 B.H.P.



Showing Port Side of a 100 B.H.P. TROUT DIESEL H-O ENGINE

FEATURES

- 4 Cycle Economy with 2 Cycle Simplicity.
- Divided combustion chambers (Elwee System) absolutely prevents pre-ignition detonations.
- A "Full Diesel" with no valve gear to maintain.
- Scavenging cylinder divorces crank case from combustion end, making possible lubrication in constant stream under pressure to all moving parts.
- Lubricating Oil consumption is less than 1% of Fuel Oil Consumption.
- Easy to operate.

THE H. G. TROUT COMPANY
Buffalo, N. Y.

FALK GEARED MARINE OIL ENGINES

Standard Falk Geared Marine Oil Engines are direct reversible. They consist of a pair of Falk Oil Engines connected by means of Falk-Bibby Couplings to a Falk Reduction Gear.

Standardized Engines of this type can now be furnished for any power between 1500 and 3000 BHP and any propeller speed between 70 and 100 RPM.

THE FALK CORPORATION
MILWAUKEE, WISCONSIN

Representatives

M. P. Fillingham
50 Church Street, New York City

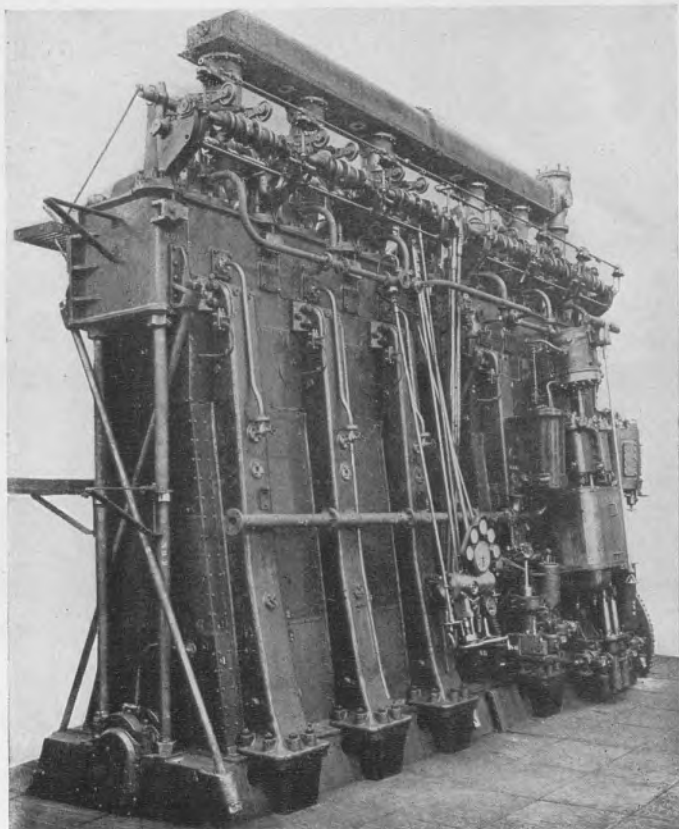
W. O. Beyer
1007 Park Bldg. Pittsburg, Pa.

WERKSPoor

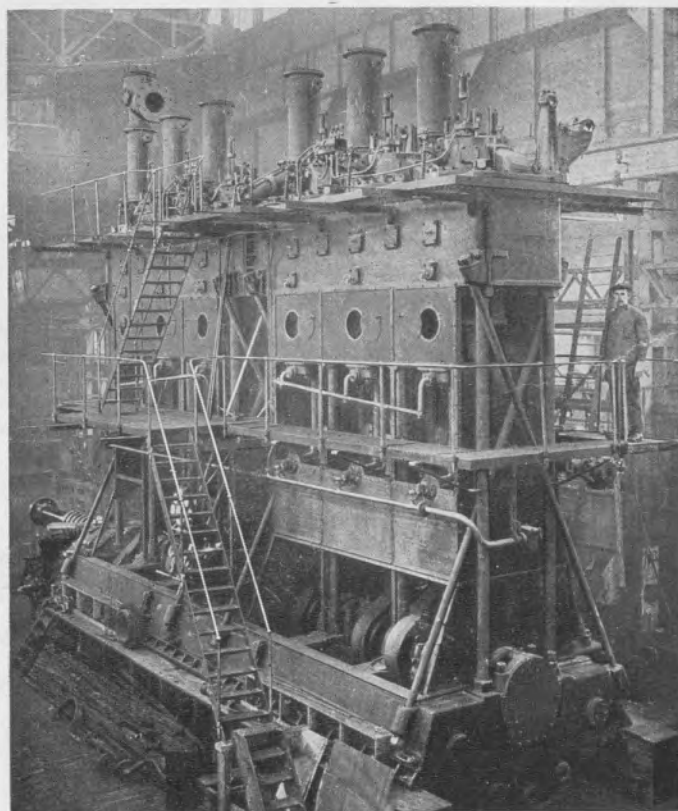
MARINE DIESEL ENGINES



THE FIRST FULL-POWERED OCEAN-GOING MOTORSHIP
WAS DRIVEN BY WERKSPoor DIESEL OIL-ENGINES



1100 B. H. P. WERKSPoor
MARINE DIESEL ENGINE



DURING CONSTRUCTION OF A 1600 B. H. P.
MARINE DIESEL ENGINE

SIMPLICITY—ACCESSIBILITY—RELIABILITY

50

MOTORSHIPS IN SERVICE AND ON ORDER

50

AMERICAN LICENSEES

NEWPORT NEWS SHIPBUILDING & DRY DOCK CO.

NEW YORK SHIPBUILDING CORPORATION

PACIFIC DIESEL ENGINE COMPANY

REPRESENTATIVE FOR
U. S. A. AND CANADA:

WILLIAM BRAAT

WOOLWORTH BUILDING
NEW YORK CITY

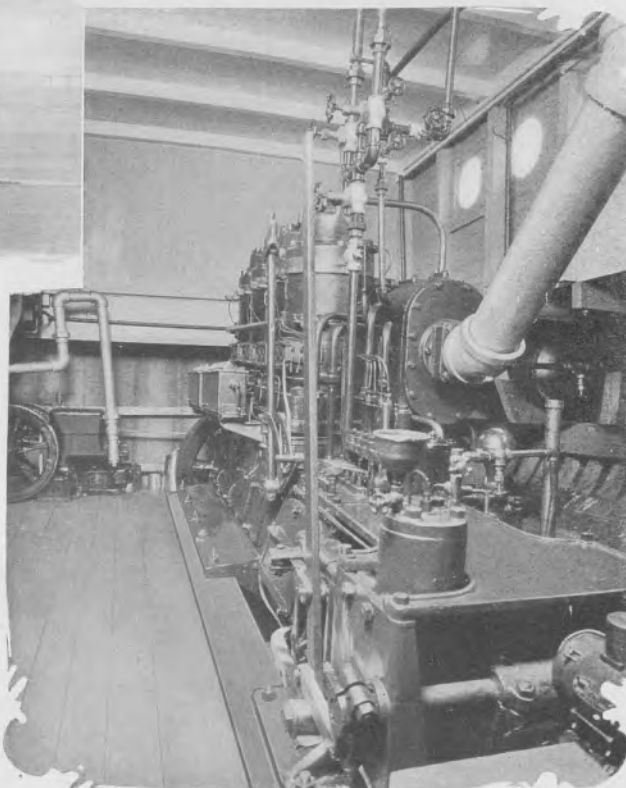
AMSTERDAM

Fairbanks-Morse C-O Marine Oil Engines

Furnish Abundant Power
For Work Boats
at a
Low Fuel Cost



The cannery tender "May-day" and a view of her 60 HP. Fairbanks-Morse "C-O" Marine Oil Engine



Quality predominates in the manufacture of Fairbanks-Morse "C-O" Engines from the selection of the raw materials to the final assembly of the finished product. "C-O" Engines are sold with a positive guarantee of the best there is in workmanship and design.

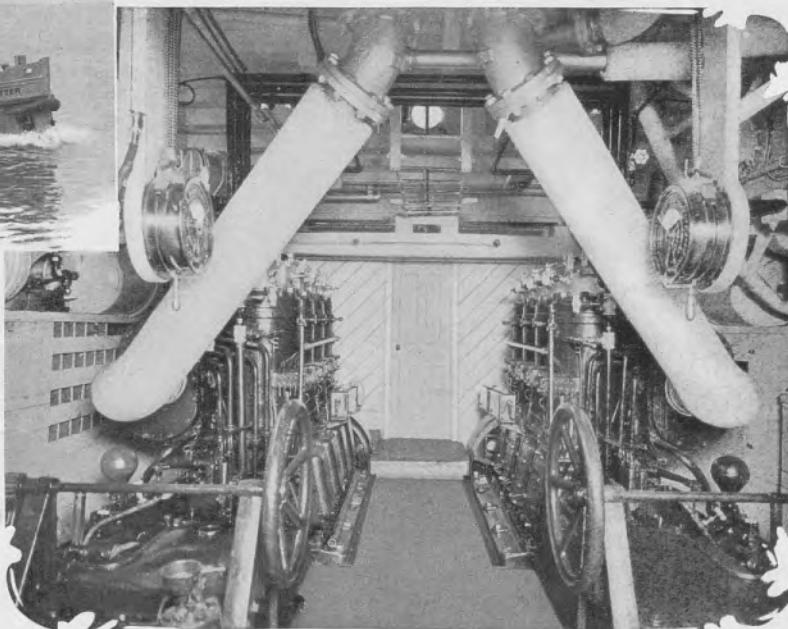
Operate on
LOW-PRICED
FUEL OILS



The tug boat "Go-Getter" showing the two 100 HP. Fairbanks-Morse "C-O" Marine Oil Engines which furnish this efficient tug with dependable power



RELIABLE
DEPENDABLE
DURABLE



FAIRBANKS, MORSE & CO.
Manufacturers - - - CHICAGO

UNDER THE B. & W. SYSTEM
THE AGGREGATE H.P. IN VESSELS
FROM 1500 TO 6600 I.H.P. AND
THE NUMBER OF SUCCESSFUL
MOTORSHIPS IN OPERATION
EXCEED ALL OTHER
SYSTEMS COMBINED
AND NO ENGINE BUILT
TO THIS SYSTEM HAS
EVER BEEN REMOVED
OR REPLACED

ACCURACY AND INTERCHANGEABILITY
ASSURED BY MODERN JIGS
AND SPECIAL TOOLS;
PROPER MATERIALS BY
CRAMPS' IRON, STEEL AND
BRASS FOUNDRIES
CONTROLLED BY A
MODERN LABORATORY

MOTORSHIPS
THAT STAY
ON THE
SEAS

DIESEL ENGINES
THAT STAY
IN THE
SHIPS

STANDARD
ENGINES FOR
TWIN SCREW VESSELS

SPECIAL LONG STROKE
ENGINES FOR SINGLE SCREW SHIPS
OPERATING AT FROM 75-95 R.P.M.

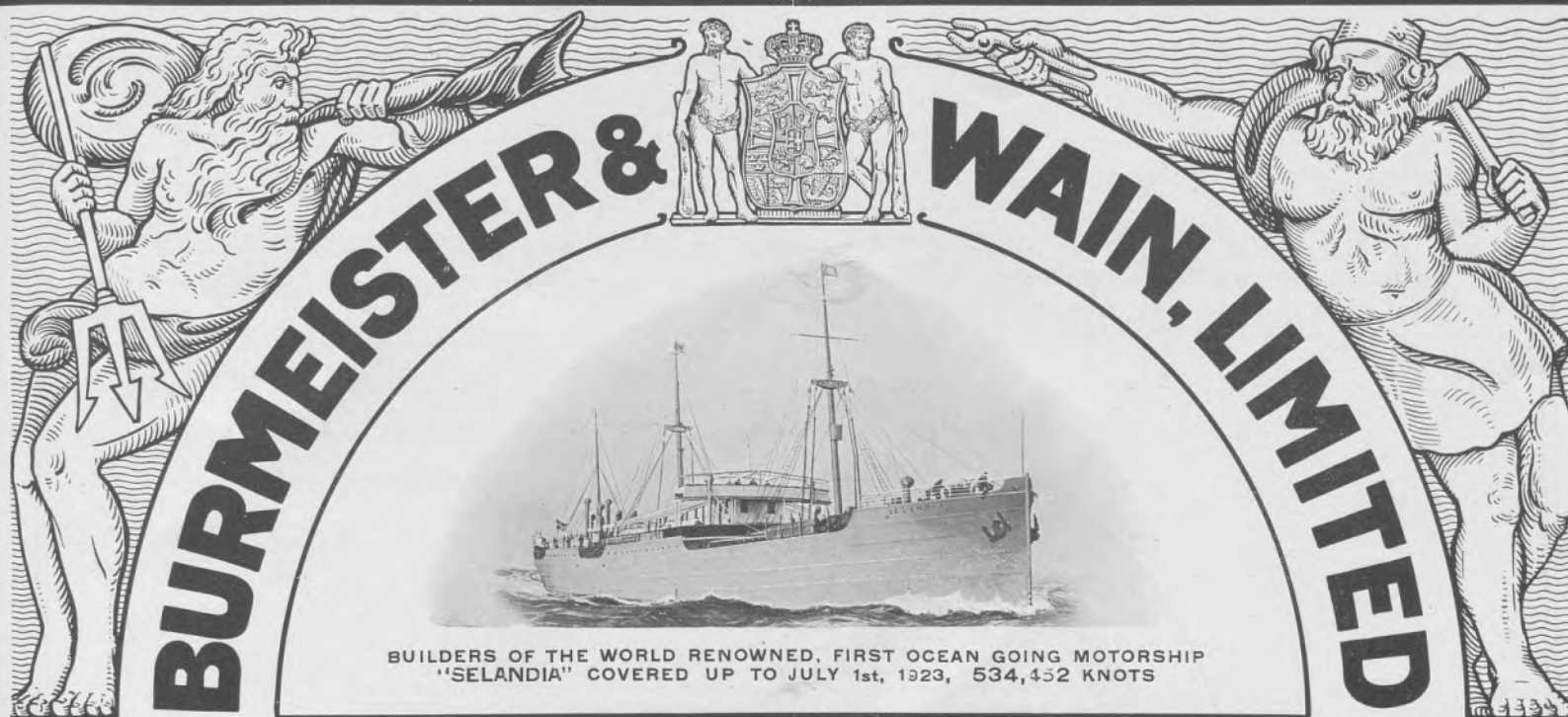
(2250 I.H.P.)
PORT ENGINE
MS "CALIFORNIAN"

THE WM. CRAMP & SONS S. & E. BLDG. CO.

PHILADELPHIA, PA., U. S. A.

BUILDERS OF COMPLETE MOTORSHIPS TO ONE STANDARD OF
WORKMANSHIP AND ONE GUARANTEE FOR PERFORMANCE

(Burmeister & Wain System)



BUILDERS OF THE WORLD RENOWNED. FIRST OCEAN GOING MOTORSHIP
"SELANDIA" COVERED UP TO JULY 1st, 1923, 534,452 KNOTS



ENGINEERS & SHIPBUILDERS
COPENHAGEN, DENMARK



BUILDERS OF MARINE DIESEL ENGINES

UP TO JUNE, 1923
PUT IN ACTUAL
SERVICE

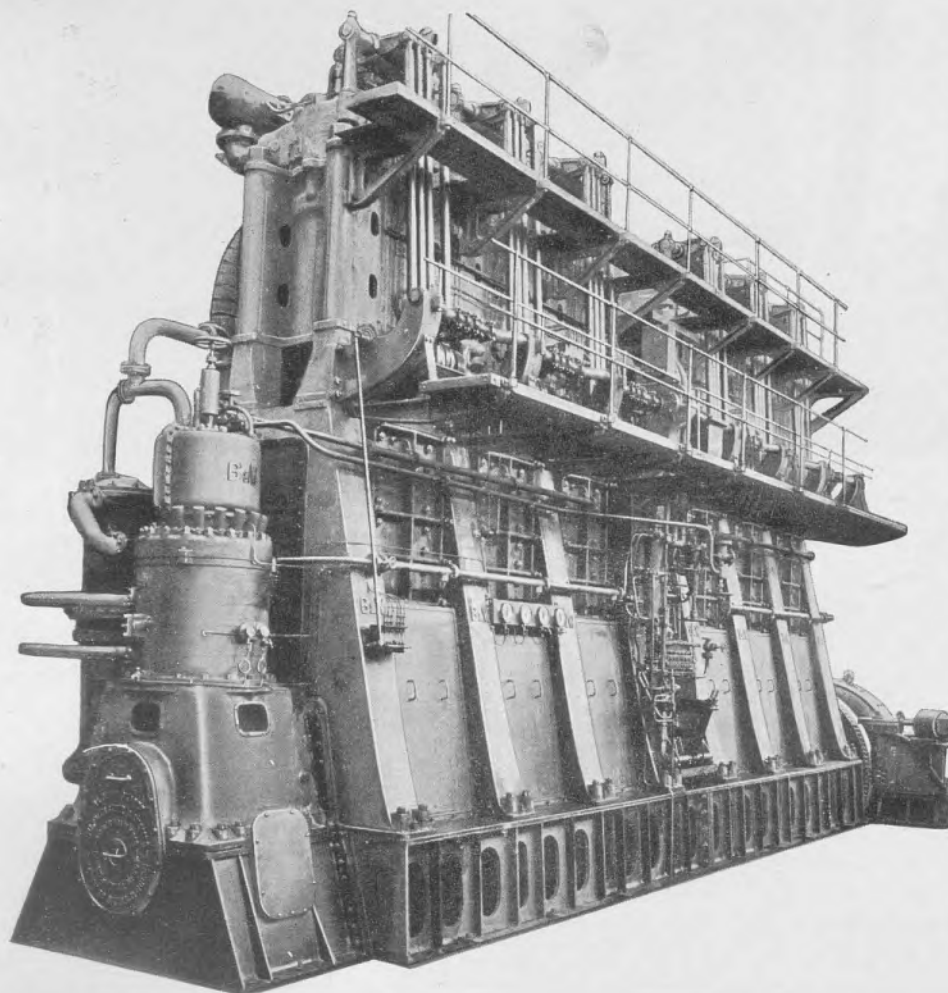
122

MOTORSHIPS WITH ENGINES
OF THE B & W TYPE
TOTTALLING

1,469,052

TONS
DISPLACE-
MENT

ACTUAL FUEL OIL
CONSUMPTION
OF
MAIN ENGINE
SHOWN
0.365 LBS.
PER
B. H. P. HOUR



S. B. ENGINE
OF
THE AMERICAN
MOTOR SHIP
"WILLIAM PENN"
2250 I. H. P.

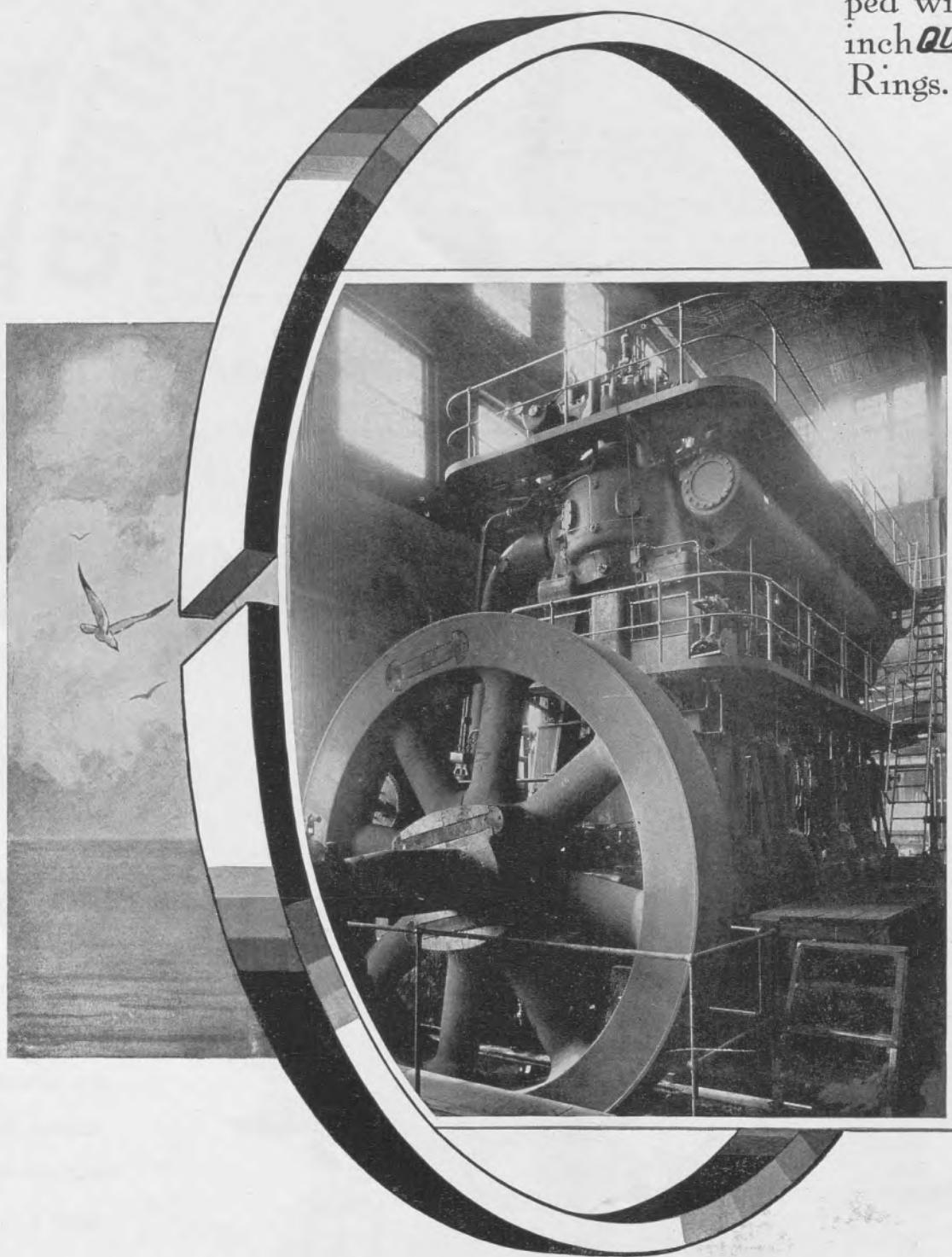
U. S. LICENSEE
THE WM. CRAMP & SONS CO.
PHILADELPHIA, PA., U. S. A.

U. S. REPRESENTATIVE FOR B & W
H. C. HALLINGS
27 WHITEHALL STREET, NEW YORK

QUALITY

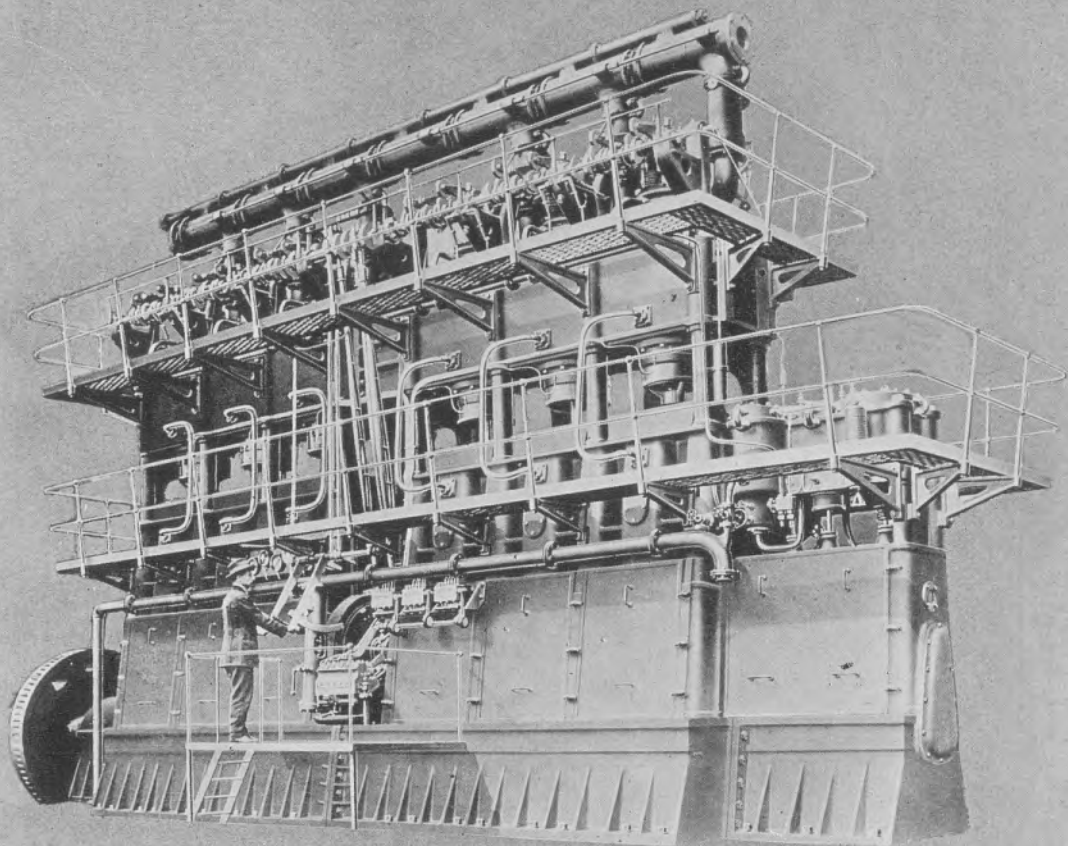
Piston Rings

Showing 2000 b.h.p. Diesel Engine. Each piston, under a working pressure of 600 lbs. per square inch, is equipped with eight 40 inch *QUALITY* Piston Rings.

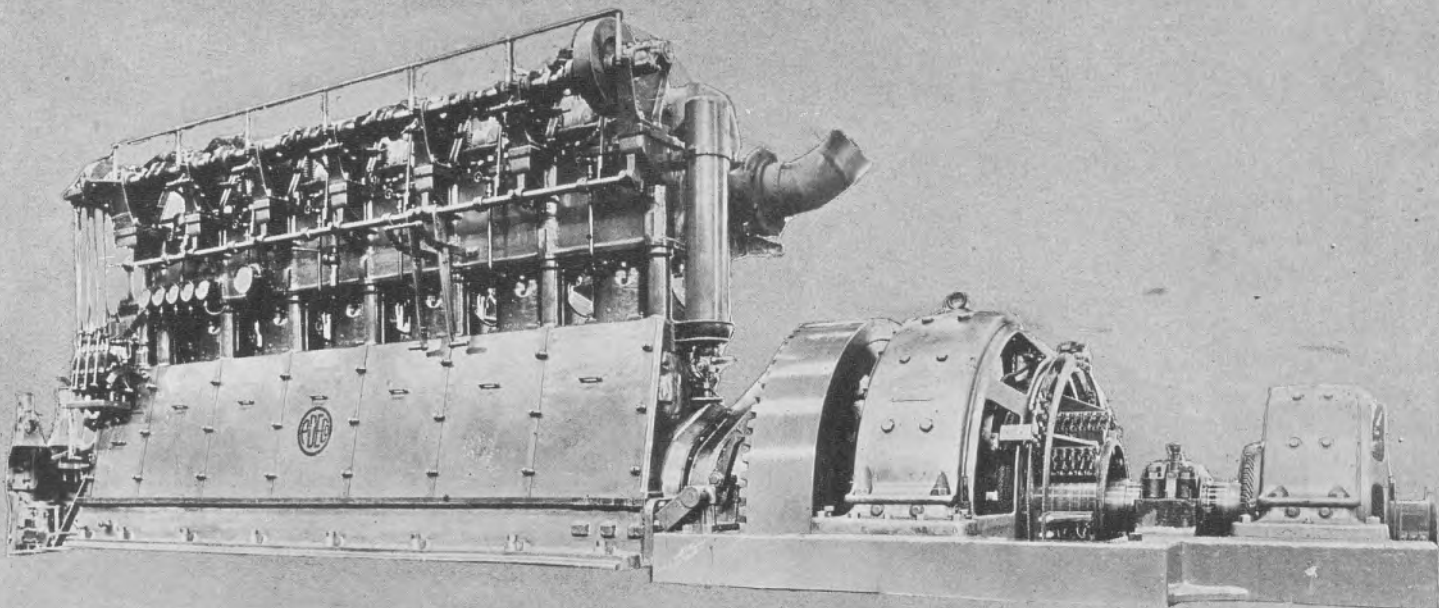


The Piston
RING COMPANY
Muskegon, Michigan

WERKSPLOOR DIESEL ENGINES



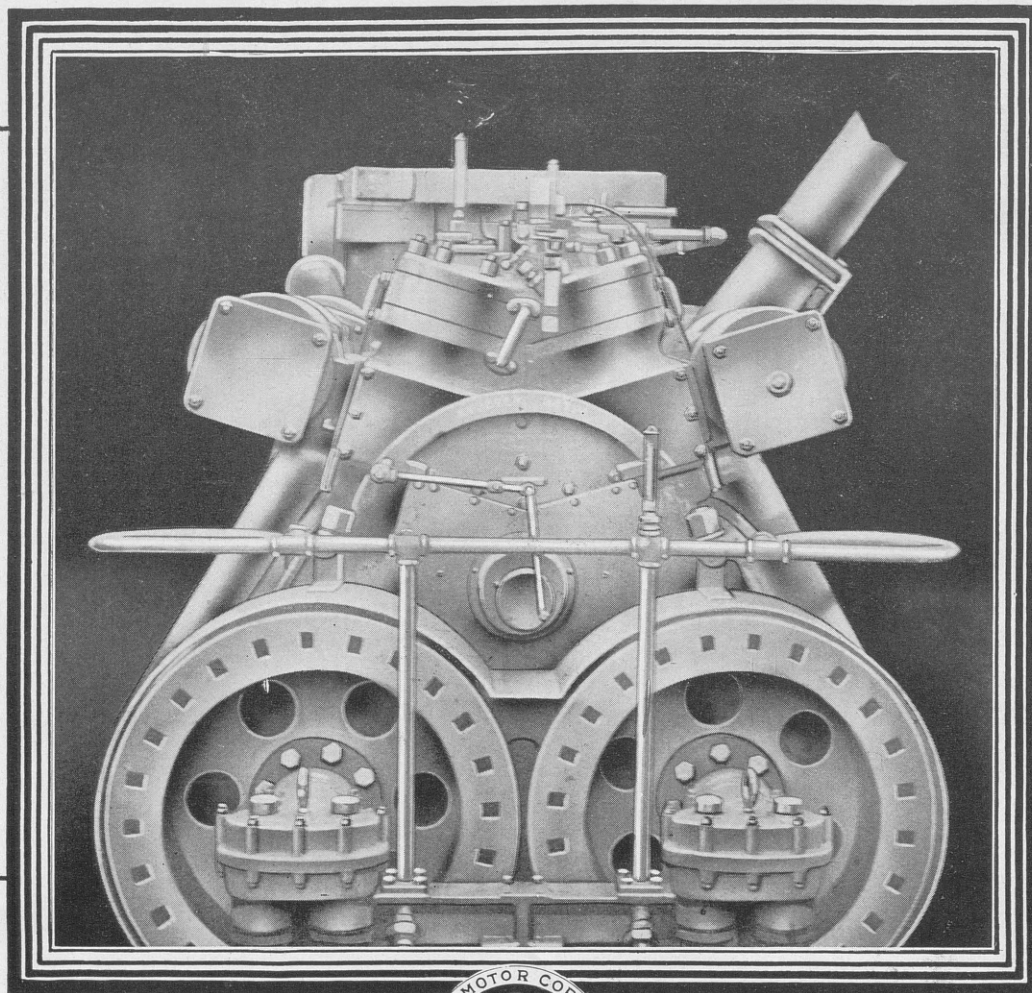
For Direct Drive



For Electric Drive

PACIFIC DIESEL ENGINE COMPANY
OAKLAND, CALIFORNIA

KNUDSEN MOTOR



TWO CYCLE FULL DIESEL

100% scavenging with 10% to 30% super charge of air in the cylinder and very low fuel consumption. Weight 50 lbs. per H. P.

*Built for Gear Reduction, Direct Drive, Electric Drive,
also Stationary and Auxiliary Engines 50 to 4,350 H. P.*

Manufactured by

KNUDSEN MOTOR CORPORATION
30 CHURCH ST., OF N.Y. NEW YORK CITY

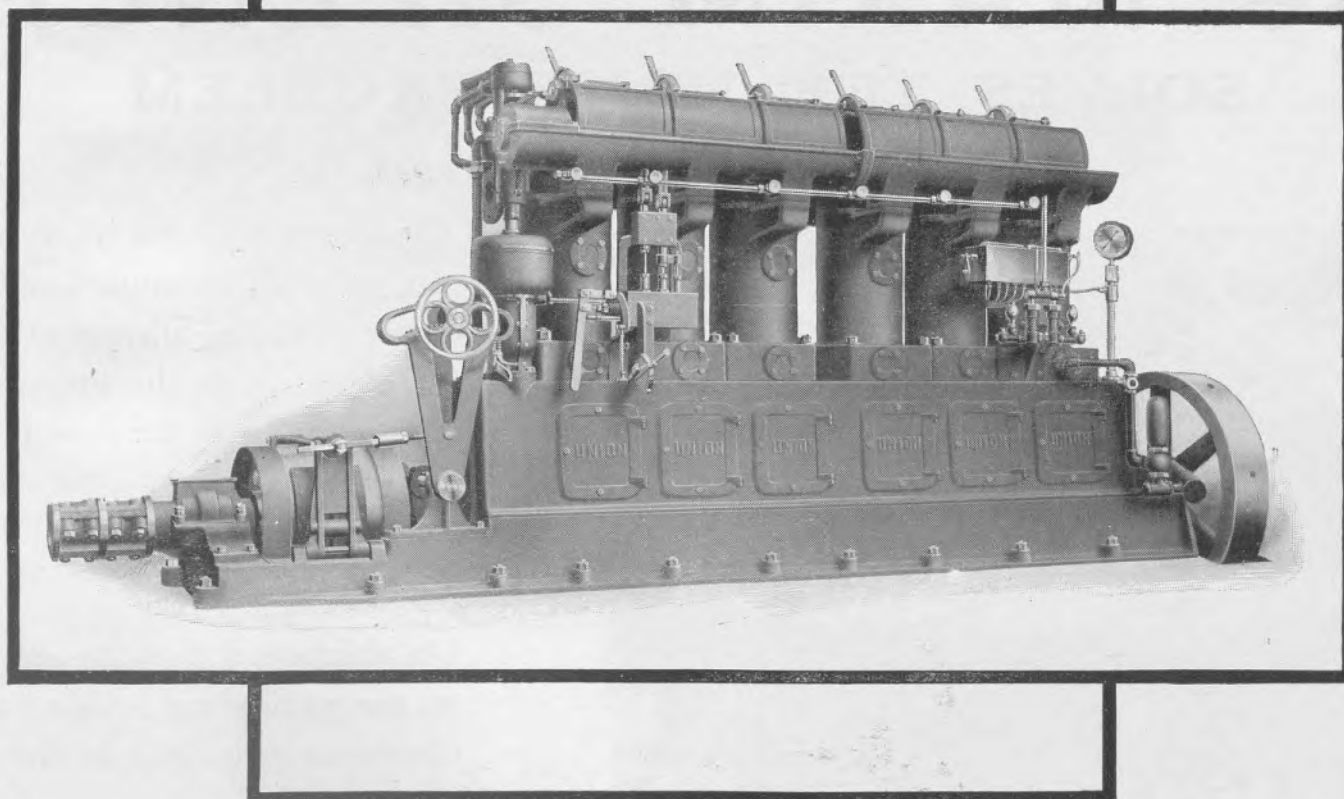
UNION DIESEL ENGINES

FOUR CYCLE
MECHANICAL INJECTION

OVERHEAD CAMSHAFT CONSTRUCTION IS USED, WHICH MEANS LESS DIFFICULTY IN CAM SETTINGS, FEWER WEARING PARTS, AND MORE ACCURATE VALVE SETTINGS.

UNION DIESEL ENGINES ARE THE RESULT OF THIRTY-EIGHT YEARS OF SUCCESSFUL INTERNAL COMBUSTION ENGINE EXPERIENCE.

UNION GAS ENGINE COMPANY
OAKLAND, CALIFORNIA





MR. ENGINEER!

Have you ever realized that the proper operation of the engines of your vessel depends chiefly on the quality of lubricating-oil used and its ability to provide and maintain that protecting film between the metallic surfaces so essential to efficient and economic service?

The slightest breakdown in your machinery during a voyage, due to the poor quality of lubricating-oil, with resultant delays and unnecessary repairs, will many times exceed the entire annual cost of lubrication.

WICO DIESEL-ENGINE OILS

are of superior quality, provide every safeguard and guaranteed to reduce friction to a minimum.

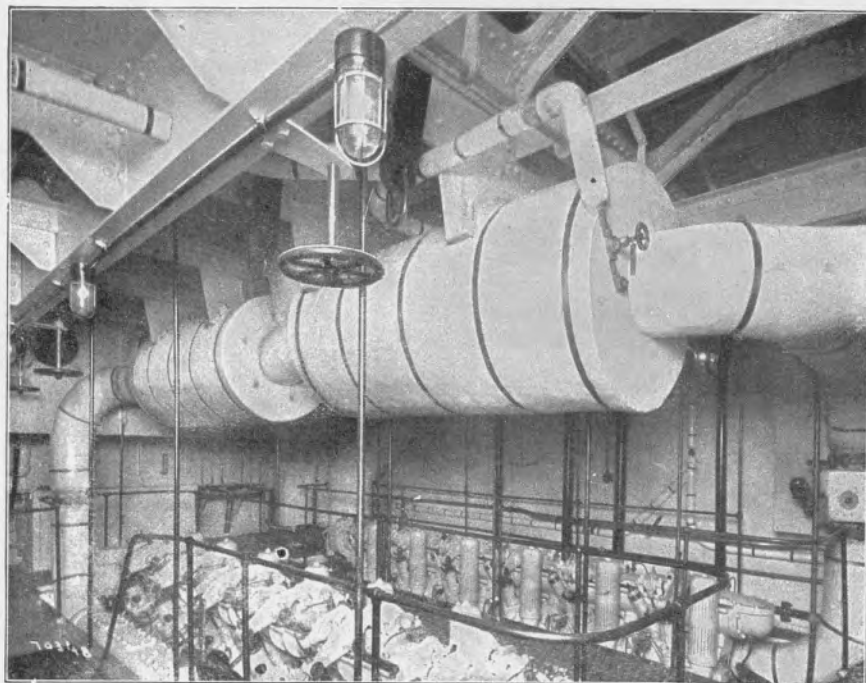
Stocks carried at ALL West Indian, Central and South American Ports

WEST INDIA OIL COMPANY

The MAXIM SILENCER

SOLVES THE NOISE PROBLEM

Over 1000 Installations to Prove It



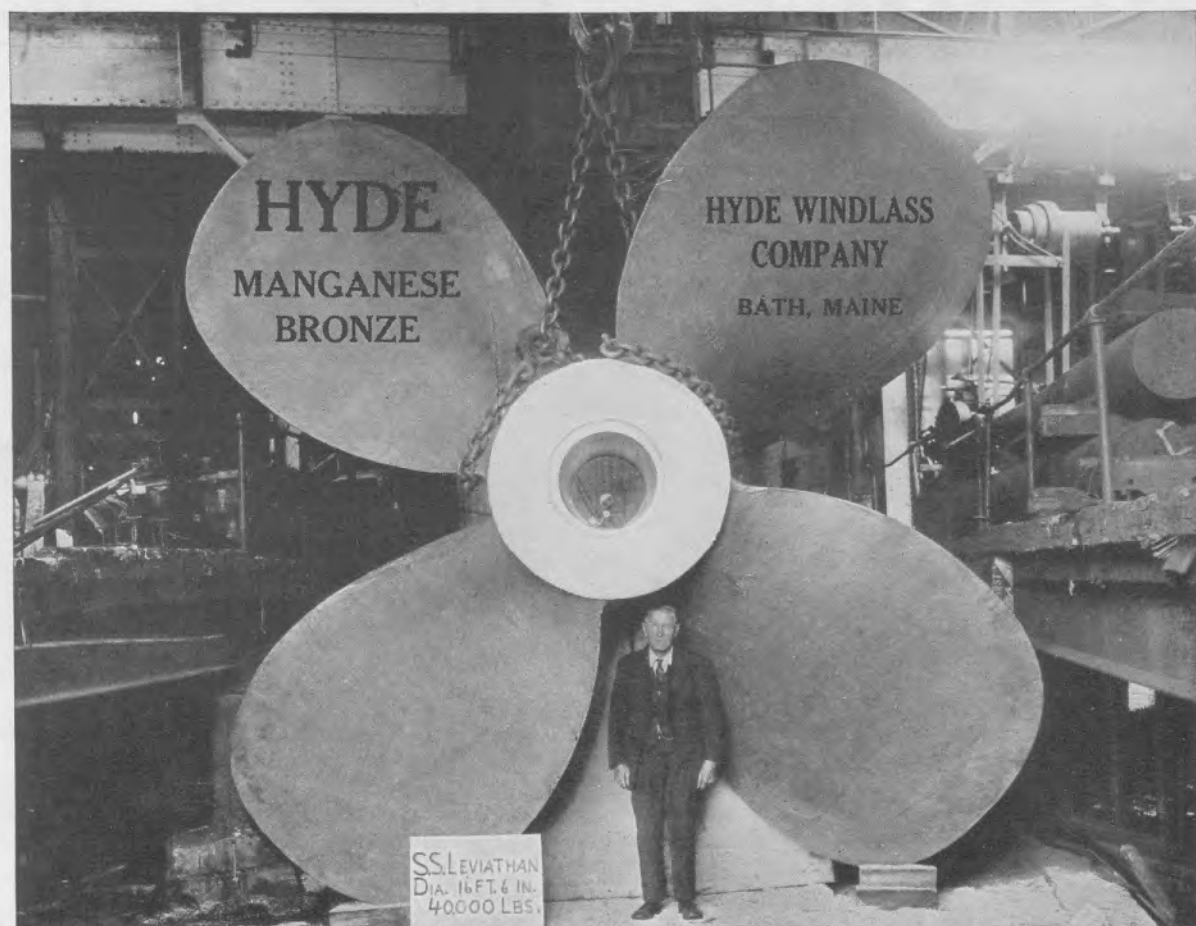
Installation of Maxim Silencer on Motor Barge, "Twin Ports."

The day has passed when we need put up with exhaust and suction noises. Maxim Silencers will practically eliminate the sound of both and not impede the flow of gas.

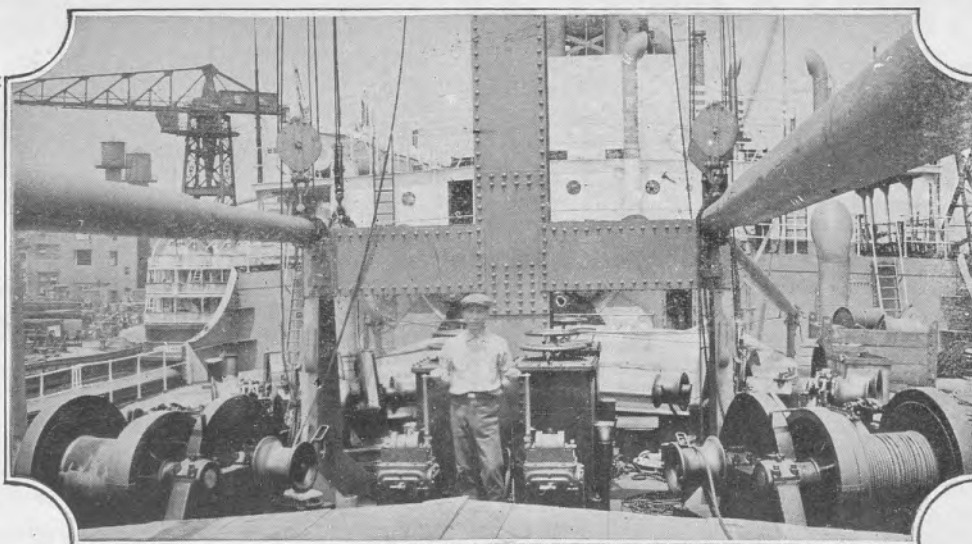
Made in all pipe sizes from 1 inch to 20 inches.

On shipboard they insure silence on the navigating bridge and high operating efficiency in the engine room.

THE MAXIM SILENCER CO.
107 Homestead Ave. Hartford, Conn.



**A majority of the most modern motorships are
equipped with A-E-CO MARINE AUXILIARIES**



Afterdeck of the WM. PENN., showing A-E-CO Electric Cargo Winches

STEERING GEARS—TELEMOTORS—WINDLASSES—WINCHES—TOWING MACHINES—CAPSTANS—GYPSEYS—CHANDLERY

"The Choice of the Old-Timers"

WRITE FOR DETAILS

AMERICAN ENGINEERING COMPANY

2413 ARAMINGO AVE., PHILADELPHIA, PA.

New York

San Francisco

Boston

New Orleans

Philadelphia

Seattle

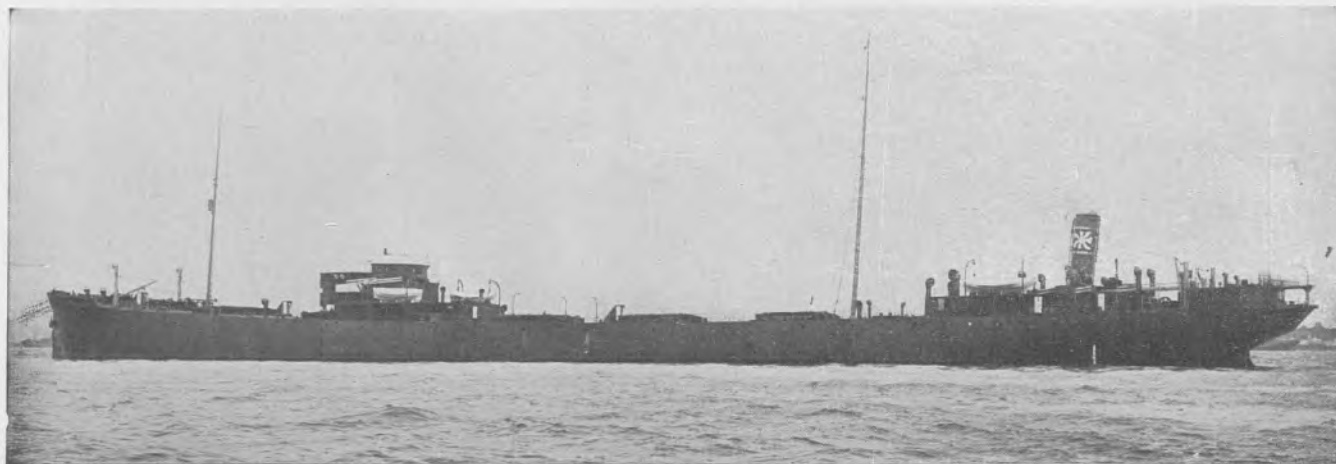
Cleveland

Victoria, B. C.

The Largest Motor Tank Ship in the World

Built on

Isherwood System



M.S. "ZOPPOT"

Over 1400 vessels representing over 12,000,000 tons dead-weight-carrying-capacity, built, of which 660 are bulk-oil-carriers representing about 6,400,000 dead-weight-carrying-capacity tons; all built on Isherwood system.

J. W. ISHERWOOD - -

17 BATTERY PLACE, NEW YORK, U. S. A.; or
4 LLOYDS AVENUE, LONDON, E. C. 3

The Manzel Force Feed Oiler

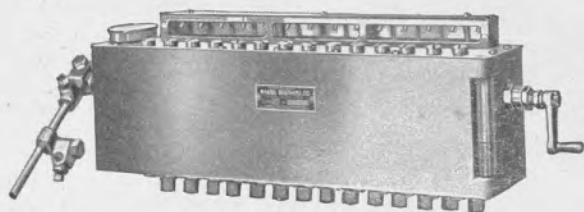
Accounts For Every Drop of Oil

The "Manzel" automatic sight feed method of lubrication is the common sense way to oil engine cylinders efficiently and makes every drop of oil do its full duty.

The "Manzel" Oiler measures oil to the cylinders just as it is needed, always in proportion to the engine's speed, never too much, never too little.

There is no guess work. You know at all times just how much oil is being supplied, for every drop passes through the sight feed in plain view.

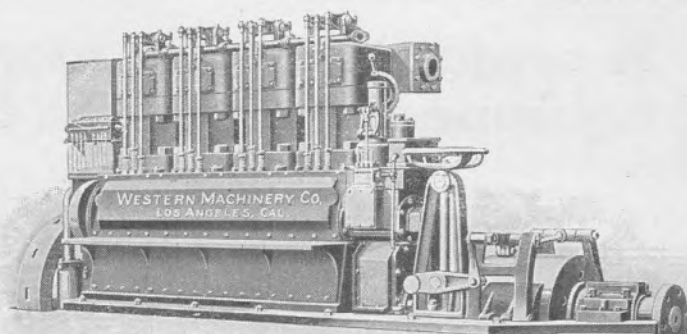
Saves 30 to 60% on oil bills and renders service that you can count on, without attention. It never forgets and is always on the job.



Sizes for Every Type of Engine

Write for Catalog No. 37

Manzel Brothers Company
300-302 Babcock St., Buffalo, N. Y., U. S. A.



"Western" Diesel Engines

Stationary and Marine Types

A rigid comparison of operating and maintenance costs will prove conclusively the advisability of the replacement of less efficient power equipment with "Western"—the highest type of power unit in its simplest form.

"Western" Diesel Marine Engines

75—100—150 Horsepower
Single and Multiple Cylinder Units

Western Machinery Company

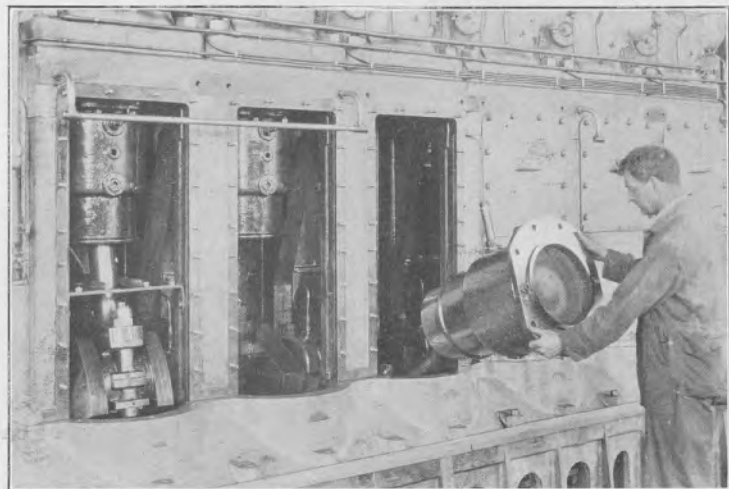
907 N. Main St., Los Angeles, Calif.

Branch: Rialto Bldg., San Francisco, Calif.

LOMBARD

"Study the Structure"

DIESEL OIL ENGINES



— set a new standard of accessibility which adds greatly to convenience of operation and maintenance, and contributes largely to reduction in cost of upkeep.

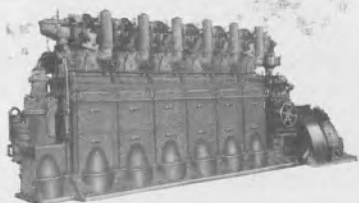
The valves are conveniently located in quickly removable cages, and the cages have renewable bushings and seats. Pistons and rings are accessible from under without breaking of joints or adjustments. Four large handholes in each cylinder provide ample access to water jackets. Stanchions between crank case doors can be removed to make main shaft bearings and connecting rod bearings 100% get-at-able.

This extra accessibility of the Lombard design is gained with no increase in engine room space; in fact less head room is needed since pistons are withdrawn and all adjustments and replacements are made within the limits of engine height.

THE LOMBARD GOVERNOR COMPANY

Established 1894
Diesel Engines and Water Power Governors
805 MAIN STREET, ASHLAND, MASS.

**The Lombard Design Saves
Weight and Headroom**

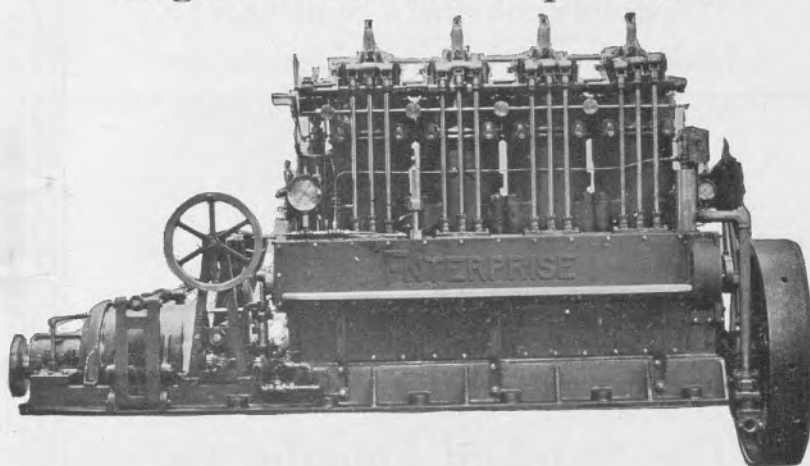


Enterprise Repeat Orders Mean Satisfied Customers

Slow-speed, heavy-duty type, massive construction, designed on true Diesel lines with over-size bearings and working parts to enable engine to stand excessive overload over rated horsepower. Starts instantly by compressed air (pressure required not to exceed 175 pounds) and load can be applied immediately. No priming, heating or electric equipment required. Compression, 350 pounds. Ignition by heat of compression only. Fuel injection by pressure only, no compressed air being required.

Fuel consumption is very low, as one gallon of crude oil will develop 19 to 22 horsepower.

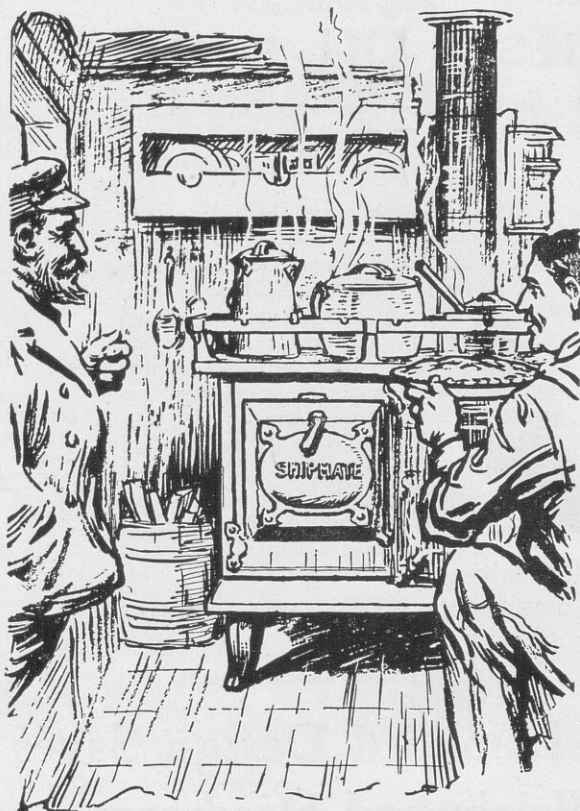
*Cost of operating this 165 h. p.
Engine — 35 cents per hour*



18th and Alabama

ENTERPRISE
ENGINE COMPANY

San Francisco, Cal.



"How's that favorite pie of mine going to turn out this time, Cook?"

"Like Mother used to make, Cap'en, now that you've got this here Shipmate aboard."

In the hum-drum round of life on ship-board, meal-times are pleasant breaks in the monotony.

A good cook and a SHIPMATE make the right combination for shortening the day and the voyage.

SHIPMATES

are made only by

The Stamford Foundry Co.

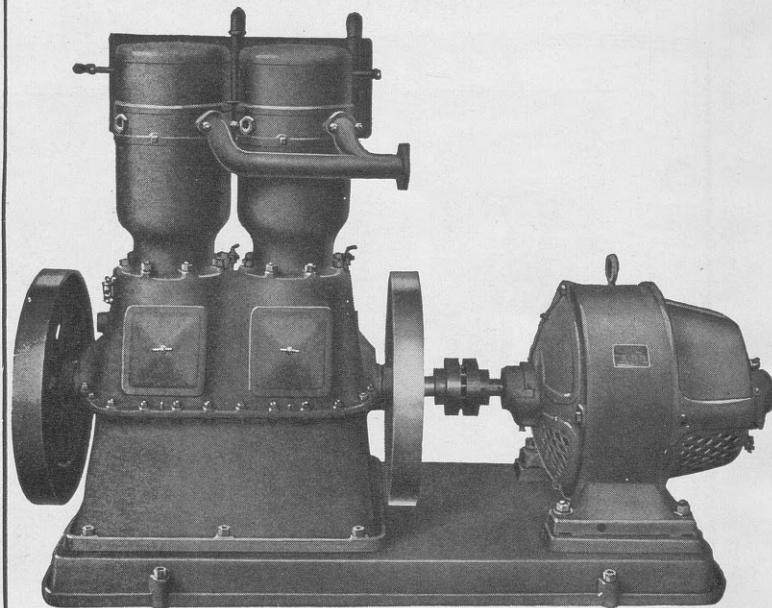
Established 1830

Stamford, Conn.

BULL DOG OIL ENGINES

for driving

ELECTRIC GENERATORS, AIR COMPRESSORS,
ICE MACHINES, PUMPS AND WINCHES



8 K.W. Generator Set

Operates on kerosene or fuel-oils
No torch or electric ignition required

BATES AND EDMONDS MOTOR COMPANY

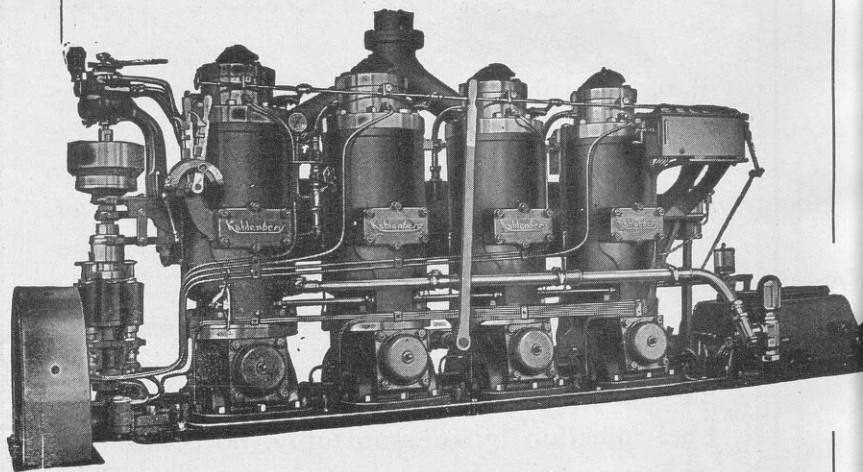
LANSING, MICHIGAN, U. S. A.

Engine builders since 1899

Kahlenberg

HEAVY DUTY

MARINE OIL ENGINES



The "Kahlenberg" operates on .55 pound of crude oil per h.p. hour, and is remarkably smooth in action when running at any speed, with or without load.

It has positive governor control from no load to full load. Variable speed is instantly obtainable from just "turning over" to wide open. No water injection. 20 to 200 h.p.

Continuous EFFICIENCY Guaranteed

Other Distinctive Features—

Injection control	Pressure fuel oil strainer
Air starting and reversing	Every part accessible and easily removable.
Water cooled combustion chamber	

May we send our latest catalog?

KAHLENBERG BROS. CO.

MANUFACTURERS

1707 12th St.

Two Rivers, Wis., U. S. A.

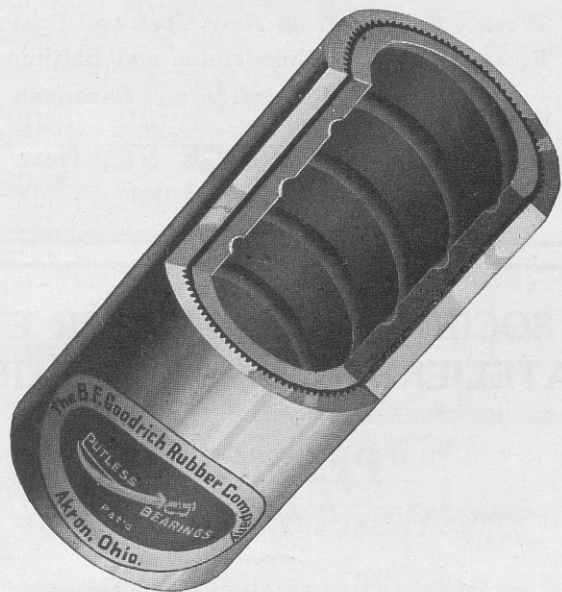
NOT a single failure

Widest use and severest tests have
proved the superiority of the

CUTLESS BEARING

made by

Goodrich



A great improvement in stern tube bearings and outboard strut bearings for tugs, motor boats and launches.

Its tough Olivite Rubber surface reduces screw vibration, prevents scoring of bearing or shaft, is not injured by sandy, gritty water, gives much longer service. Investigate fully.

THE B. F. GOODRICH RUBBER COMPANY
Akron, Ohio



DIESEL

Repairs and Installations

EXPERIENCED engineers and modern equipment available in principal ports for the repair or installation of all types of Diesel engines.

Builders of all types
of vessels including

M. S. Kennecott

M. Y. Cynthia

Installations of Diesel
engines in

M. S. Fordonian

M. S. Boxer

M. Y. Alcyone

Agents for Sumner
heavy oil engines.

TODD SHIPYARDS CORPORATION
25 Broadway, New York



Twelve shipways—
Twenty-one floating docks—
Two graving docks

Robins Dry Dock & Repair Co.
Erie Basin, Brooklyn
Tietjen & Lang Dry Dock Co.
Hoboken, N. J.
Tebo Yacht Basin Co.
Ft. 23rd Street, Brooklyn
Clinton Dry Docks, Inc.
Ft. Clinton Street, Brooklyn
Todd Dry Docks, Inc., Seattle, Wash.
Todd Dry Dock & Construction Corp.
Tacoma, Wash.
Todd Shipbuilding & Dry Dock Co., Inc.
Mobile, Ala.

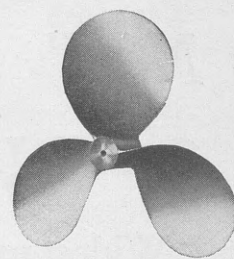


Cap'n Allswell says :

You can't make butter out o' sea water

If your propeller churns more'n it drives, you're losin' power, speed and comfort. Write for the Columbian Book and find out just what sort o'propeller is best for your engine and hull.

The Columbian Bronze Corp., 218 N. Main St., Freeport, N. Y.
New York City Sales: 44 Third Avenue



COLUMBIAN *Bronze* PROPELLERS

UNITED AMERICAN LINES

Joint Services with

HAMBURG-AMERICAN LINE

39 Broadway, New York

Passenger Services

New York to Cherbourg, Southampton, Hamburg
New York to Hamburg direct

Freight Services

New York to Hamburg direct
Boston, Philadelphia, Baltimore, Norfolk to Hamburg and Bremen
New Orleans to Hamburg and Bremen
U. S. West Coast Ports to Northern Europe
New York and Baltimore to United States West Coast
(Jointly with Houlder, Weir & Boyd)

AMERICAN-HAWAIIAN S. S. Co.

Intercoastal Services

To Los Angeles, San Francisco, Portland
Seattle and Tacoma

Weekly Sailings from New York and Boston
Fortnightly from Philadelphia and Baltimore
Monthly from Charleston and Savannah

General Offices: 8 BRIDGE ST., New York

Phone: Bowling Green 1500

CORYPHONE "ANTI-NOISE"

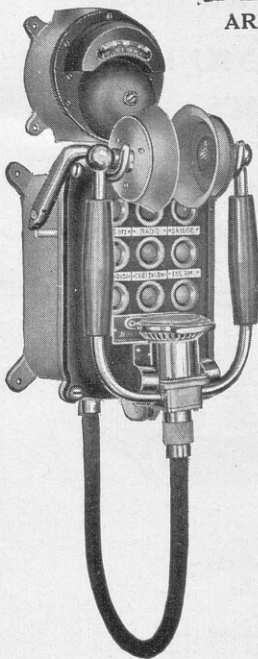
TELEPHONES

EMBODYING

MAGNAVOX

PATENTS

ARE NOW AVAILABLE



DUE to the combined efforts of Chas. Cory & Son, Inc., and the Magnavox Company, together with the use of the patents of each, a super intercommunicating telephone has been produced.

"Anti-Noise" Coryphone can be furnished for any number of stations for common talking and selective ringing or selective talking and selective ringing.

These new Coryphones are the most highly perfected telephones ever offered for marine use.

Complete telephone equipment for all marine requirements conforming to the latest standards will be found in the new catalog bulletin of telephones.

CHAS. CORY & SON, Inc.

183-187 VARICK ST., NEW YORK, N. Y.

BOSTON
88 STATE ST.

PHILADELPHIA
THE BOURSE

SEATTLE
515 HOGE BLDG.

SAN FRANCISCO
11 MISSION ST.

SOCIÉTÉ DES CHANTIER ET ATELIERS DE SAINT-NAZAIRE

Reg. du Commerce de la Seine No. 41,221

PENHOËT

Head Office: 6 bis, rue Auber, Paris

TWO SHIPYARDS

Chantier de Penhoët

à

Saint-Nazaire

SHIPBUILDERS AND REPAIRERS

Engineers : Boilermakers

DIESEL ENGINES

Dry docks 393 ft., 557 ft. and 758 ft. length

Chantier de Normandie

à

Grand-Quevilly

Near Rouen, France

SHIPBUILDERS AND REPAIRERS

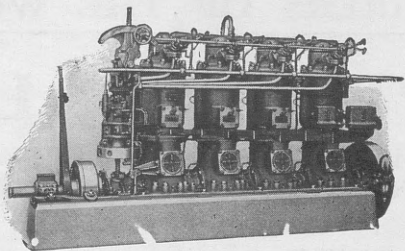
Floating dock of 4200 tons elevating power

BUILDERS OF THE SS. "PARIS" AND "FRANCE"
SHIPS FOR AMERICAN OWNERS NOW BUILDING

BERGSUND MARINE OIL ENGINES

13 to 600 H.P.—1-4 Cylinder

DEPENDABLE, ECONOMICAL, ACCESSIBLE:—THE BERGSUND IS BUILT TO LAST A LIFETIME.



180 H.P.—4 cyl. Direct Reversible

Pioneers in the oil engine business we have designed and are building an engine to give the greatest possible return on every dollar invested in them.

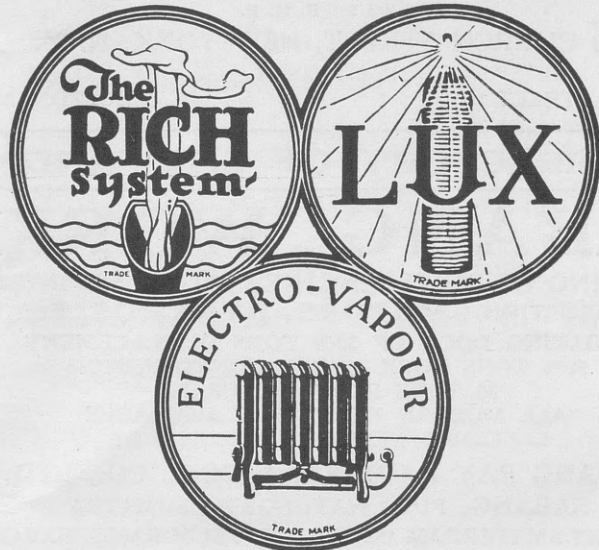
Our American Representatives, Minot, Olsen & Thurber, Inc., 90 Broad St., Boston, Mass., have motors and parts in stock. It will pay you to consult them regarding your needs.

BERGSUND ENGINEERING WORKS LTD.
Stockholm Sweden
Founded 1769

THE THREE ESSENTIALS

Economy dictates Fire Detection

The law insists on adequate Fire Extinguishing
Efficiency recommends the Electro-Vapour Radiator



**SMOKE DETECTION
FIRE EXTINGUISHING
ELECTRIC HEATING**

WALTER KIDDE & COMPANY, INC.
140 Cedar Street New York
E. S. HOUGH, 16 California St., San Francisco, Cal.

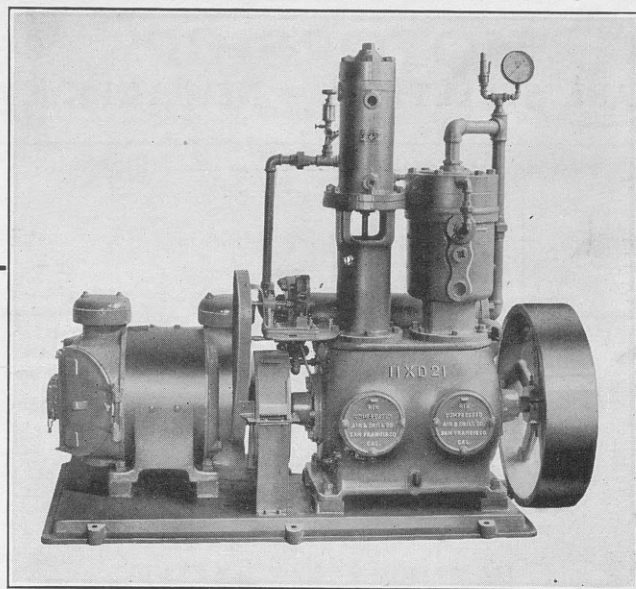
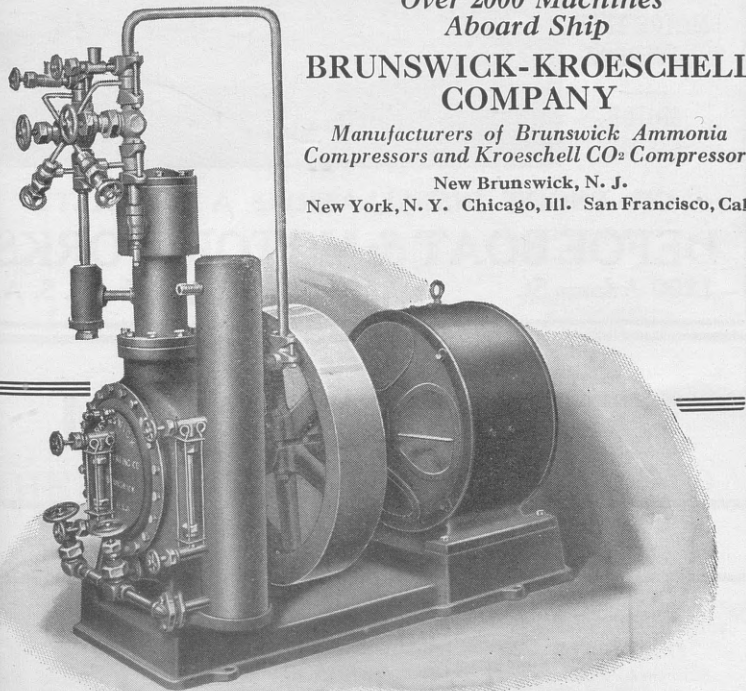
BRUNSWICK REFRIGERATING AND ICE MAKING MACHINERY

"The Standard for All Marine Installations"

Over 2000 Machines
Aboard Ship

**BRUNSWICK-KROESCHELL
COMPANY**

Manufacturers of Brunswick Ammonia
Compressors and Kroeschell CO₂ Compressors
New Brunswick, N. J.
New York, N. Y. Chicago, Ill. San Francisco, Cal.



RIX

HIGH PRESSURE COMPRESSORS

"The Standard for Diesel Installations"

8 to 200 cubic feet per minute.

250 to 1500 lbs. air pressure.

For charging maneuvering and starting tanks.

RIX COMPRESSED AIR & DRILL CO.

505 Howard St.
San Francisco, Cal.

419 East Third St.
Los Angeles, Cal.

Write for new catalog 150, just off the press

MARINE OIL-ENGINES

BOLINDERS COMPANY

STOCKHOLM, SWEDEN

MARINE OIL ENGINESOF THE
SURFACE-IGNITION TYPE

6 TO 500 B. H. P.

30 CHURCH STREET, NEW YORK, N. Y.

N. E. BRANCH

53 STATE STREET

BOSTON, MASS.

**NORTH EASTERN MARINE
ENGINEERING CO., Ltd.**

WALLSEND-ON-TYNE

ENGLAND

BUILDERS OF

"NORTH EASTERN-WERKSPoor"

MARINE OIL ENGINES

OVER 350 B. H. P.

DIRECTORY OF SHIP AND ENGINE REPAIRERS OF THE WORLD

SABANG WORKSREPAIRING OF SHIPS, ENGINES (STEAM AND INTERNAL
COMBUSTION), MOTORS, DYNAMOS, Etc.,

FLOATING DOCK OF 3000 TONS DISPLACEMENT

5000 TONS DOCK UNDER CONSTRUCTION

30 TONS FLOATING CRANE

ALL MODERN EQUIPMENT AVAILABLE

ELECTRIC WELDING A SPECIALTY

SABANG BAY HARBOUR & COAL CO., LTD.

SABANG, PULO WAY, NORTH SUMATRA

OFFICES AT AMSTERDAM AND SABANG (TELEGRAMS: HARCOAL)

AGENTS: HULL BLYTH & CO., LTD., 1 LLOYD'S AVENUE, LONDON, E. C. 3
AND THE PENNSYLVANIA COAL AND COKE CORPORATION, NEW YORK**VICKERS, LTD.**SHIPBUILDERS, ENGINEERS AND REPAIRERS
NAVAL CONSTRUCTION WORKS
AND DRY DOCKS

BARROW IN FURNESS

::

::

::

ENGLAND

HEAD OFFICE

VICKERS HOUSE, BROADWAY, LONDON, S. W. I.

AMERICAN OFFICE

2550 WOOLWORTH BUILDING, BROADWAY, NEW YORK CITY

**SEND FOR OUR
COMPLETE LIST OF
TECHNICAL BOOKS***For Sale by***MOTORSHIP**

27 PEARL STREET

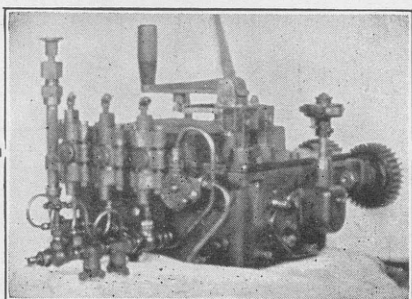
NEW YORK CITY

**NEW LONDON SHIP AND
ENGINE COMPANY**

GROTON, CONN.

REPAIRS AND FACILITIES INCLUDE LARGE MACHINE-
SHOPS, FORGE-SHOPS, FOUNDRIES, DOCKS, AND ALL
OTHER NECESSARY EQUIPMENT TO RUSH REPAIRS

PLANT LOCATED ON NEW LONDON HARBOR

DIESEL ENGINES REPAIRED**Don't Scrap Your Gasolene Engine**

Burn Light Fuel Oil

Now Practical by the HASBROUCK PATENTS

HAMMER-SPRAY SYSTEMLet us demonstrate the Hammer-Spray system to you and at the same
time tell you more about its construction and reliable operation.We are in a position to grant a limited number of Manufacturing
Licenses for this Excellent Device to responsible companies
THE HAMMER-SPRAY CO. NEW HAVEN, CONN.**AUGSBURG****DIESEL ENGINES**

2000 to 3000 B.H.P.

at 220 to 370 R.P.M.

exceptionally low prices

For Prompt DeliveryThese engines are considered among the finest in the world. They
are brand new. Only 7 engines available. Let us tell you more about
this remarkable opportunity.Write for further particulars and prices to
SHIPBUILDING AND ENGINEERING WORKS
"FIJENOORD"

ROTTERDAM (HOLLAND)

or to

MELCHIOR, ARMSTRONG DESSAU CO.

116 Broad St., New York, N. Y.

STEEL and
WOODEN
SHIPS,
BARGES,
LIGHTERS,—
MOTOR TUGS
and FERRIES—
MOTOR
YACHTS

OIL ENGINE INSTALLATIONS A SPECIALTY

DEFOE BOAT & MOTOR WORKS

1200 Adams St.

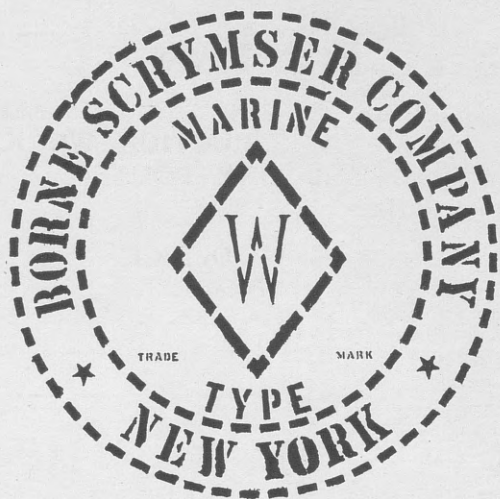
Bay City, Mich., U. S. A.

STRATFORD OAKUMFamous on
the seven seas
for nearly a
century**George Stratford Oakum Co.**

Jersey City

New Jersey

MARINE LUBRICATION PERFECTED



FOR
CYLINDERS AND BEARINGS

We desire to announce

that Howard C. Davis has acquired the interest of R. R. Row in Row & Davis Engineers, Inc.;

that the corporate name has been changed as indicated below; and

that on November 5th Howard C. Davis became president of the organization.

We take this opportunity to thank those who by their patronage have made our success, and to assure all customers that their interests will receive our careful attention.

DAVIS ENGINEERING CORPORATION

90 West St., New York
and Elizabeth, N. J.

DIESEL ENGINES REPAIRED

OUR facilities include large Machine and Forge Shops, Foundries, Docks and all other necessary equipment to rush repairs on Diesel Engines.

A complete plant with an efficient force.

*America's
Leading Marine Diesel Engine
Builders*

THE NEW LONDON SHIP & ENGINE CO.

Plant located on New London Harbor

GROTON, CONN., U. S. A.

West Coast Representatives

Mr. C. G. COKER
2402 Boylston Ave., A
Seattle, Washington

S. BURKE SMITH
203 Balfour Bldg.
San Francisco, California

New York Show Rooms

"PORT ELCO"
247 Park Ave. and
107 E. 46th St.

The East Asiatic Co., Ltd.

Aktieselskabet Det Ostasiatiske Kompagni,
COPENHAGEN

TO THE EAST:

Japan Line:

Sailings from COPENHAGEN, GOTHENBURG, CHRISTIANIA, HAMBURG and ANTWERP to HONGKONG, SHANGHAI, KOBE, YOKOHAMA, DALNY and VLADIVOSTOK.

Bangkok Line:

Sailings from COPENHAGEN, GOTHENBURG, CHRISTIANIA, HAMBURG, MIDDLESBROUGH and ANTWERP to PORT SAID, COLOMBO, PENANG, SINGAPORE and BANGKOK.

Java Line:

Sailings from COPENHAGEN, GOTHENBURG, CHRISTIANIA and HAMBURG to BATAVIA, SAMARANG and SOERABAYA.

TO SOUTH AFRICA:

Sailings from DENMARK, NORWAY, SWEDEN and BALTIC PORTS to CAPE TOWN, ALGOA BAY, EAST LONDON, DURBAN, DELAGOA BAY and BEIRA.

TO AUSTRALIA:

Sailings from DENMARK, NORWAY, SWEDEN, ANTWERP, LISBON and GENOA to FREMANTLE, ADELAIDE, MELBOURNE, SYDNEY and BRISBANE.

TO AND FROM NORTH PACIFIC AND WEST INDIES:

Sailings between SCANDINAVIAN and BALTIC PORTS, HAMBURG and ANTWERP and ST. THOMAS (with transshipment to and from the WEST INDIES), CRISTOBAL (with transshipment to and from CENTRAL AMERICA), SAN PEDRO, SAN FRANCISCO, PORTLAND, SEATTLE, TACOMA, VANCOUVER and vice versa.

TO AND FROM SOUTH PACIFIC AND WEST INDIES:

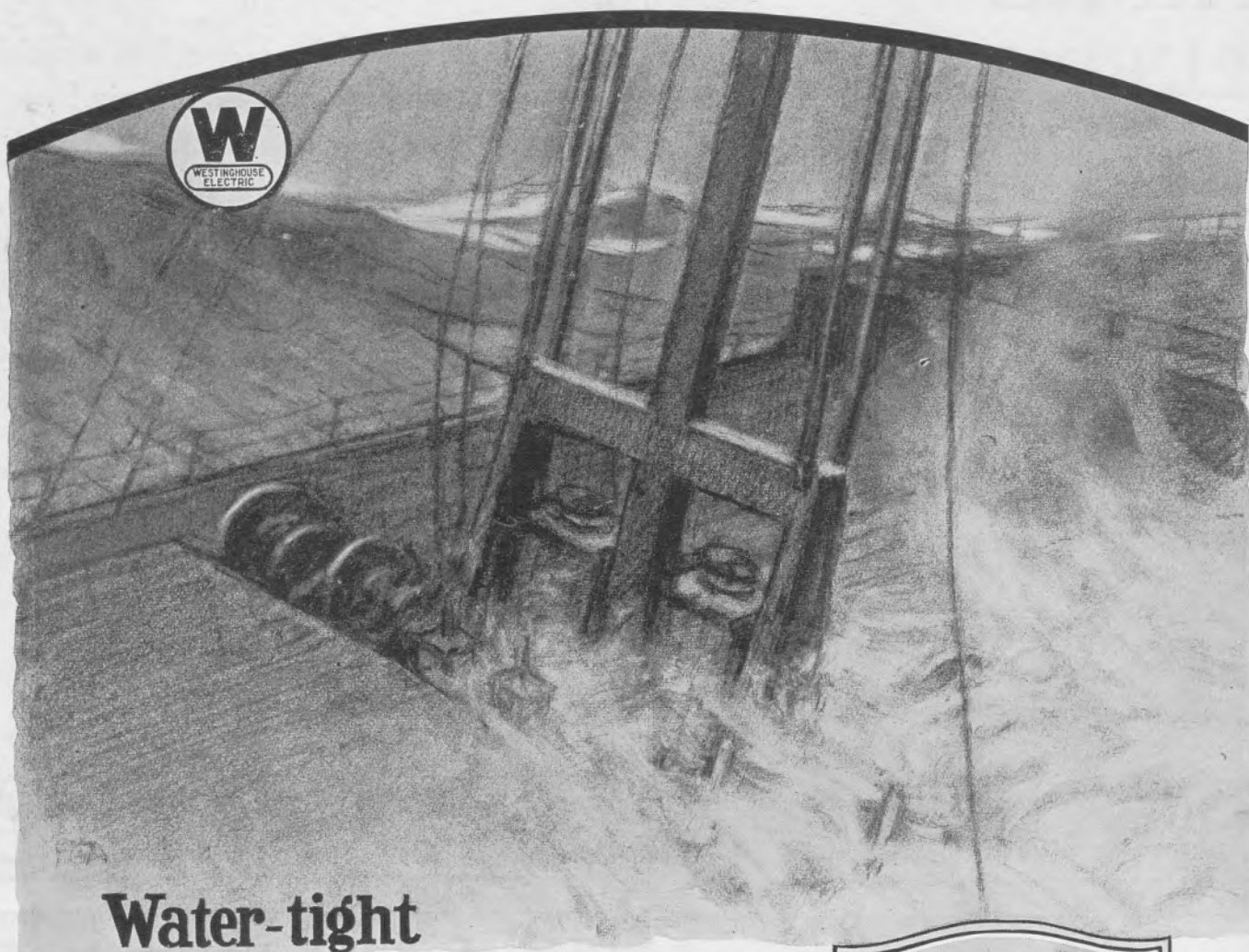
Sailings between SCANDINAVIAN and BALTIC PORTS, HAMBURG and ANTWERP and ST. THOMAS (with transshipment to and from the WEST INDIES), CRISTOBAL (with transshipment to and from CENTRAL AMERICA), GUAYAQUIL, CALLAO, IQUIQUE, ANTOFAGASTA, VALPARAISO and TALCAHUANO.

For further particulars please apply to:

THE EAST ASIATIC CO., LTD. - - - COPENHAGEN
UNITED BALTIC CORPORATION. 158 Fenchurch St., LONDON, E. C. 3.

United States of America:

The East Asiatic Co. Inc., Whitehall Building, 17 Battery Place, N.Y.
The East Asiatic Co., Inc., 433 California St., San, Francisco, Cal.



Water-tight

Unaffected by immersions in heavy seas, economical in operation, quick and reliable in handling cargoes and maintenance costs that are practically nil, is the demonstrated service record of Westinghouse Water-Tight Motors and Control.

Around the world on the M. S. William Penn on a six-months' voyage in which cargoes were taken on and discharged under every condition of weather and temperature, was the initial test of this water-tight, electrical apparatus.

The trifling sum of \$1.65 spent for renewal parts at the end of the voyage, is proof of reliability and low maintenance.

A fuel consumption 90 to 95% less than the steam winches proves the motors economical and efficient.

Freedom from cold weather troubles—frozen steam lines and the work it entails—is a noteworthy advantage.

Later installations on board the M. S. Californian and other vessels, have fully substantiated every point of advantage found during the initial trial trip of the M. S. William Penn two years ago.

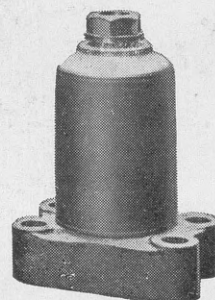
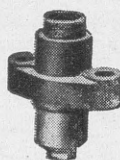
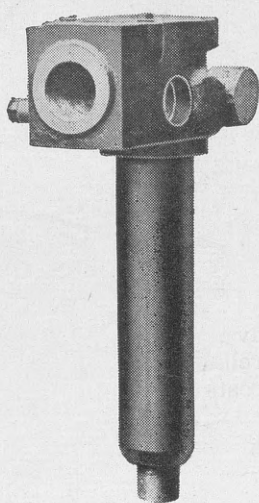
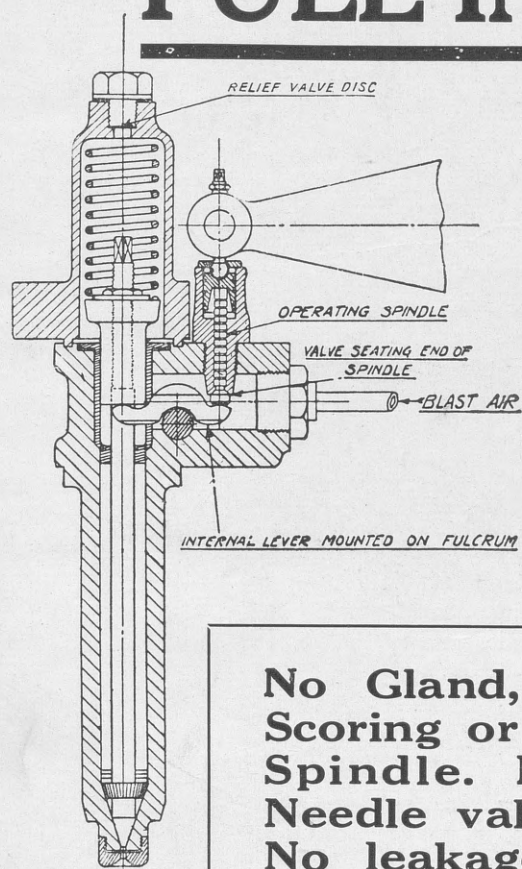


Westinghouse Electric & Manufacturing Company
East Pittsburgh, Pennsylvania
Sales Offices in All Principal American Cities
Service Stations in Principal American Ports
Special Pacific Coast Representatives
Hunt, Mirk & Co., San Francisco, Cal.

Westinghouse

Special Features in the Design of **BEARDMORE-TOSI** **DIESEL ENGINE**

TOSI PATENT FUEL INJECTION VALVE



**No Gland, Packing, Seizing
Scoring or Erosion of Valve
Spindle. No possibility of
Needle valve hanging open.
No leakage of air or fuel.**

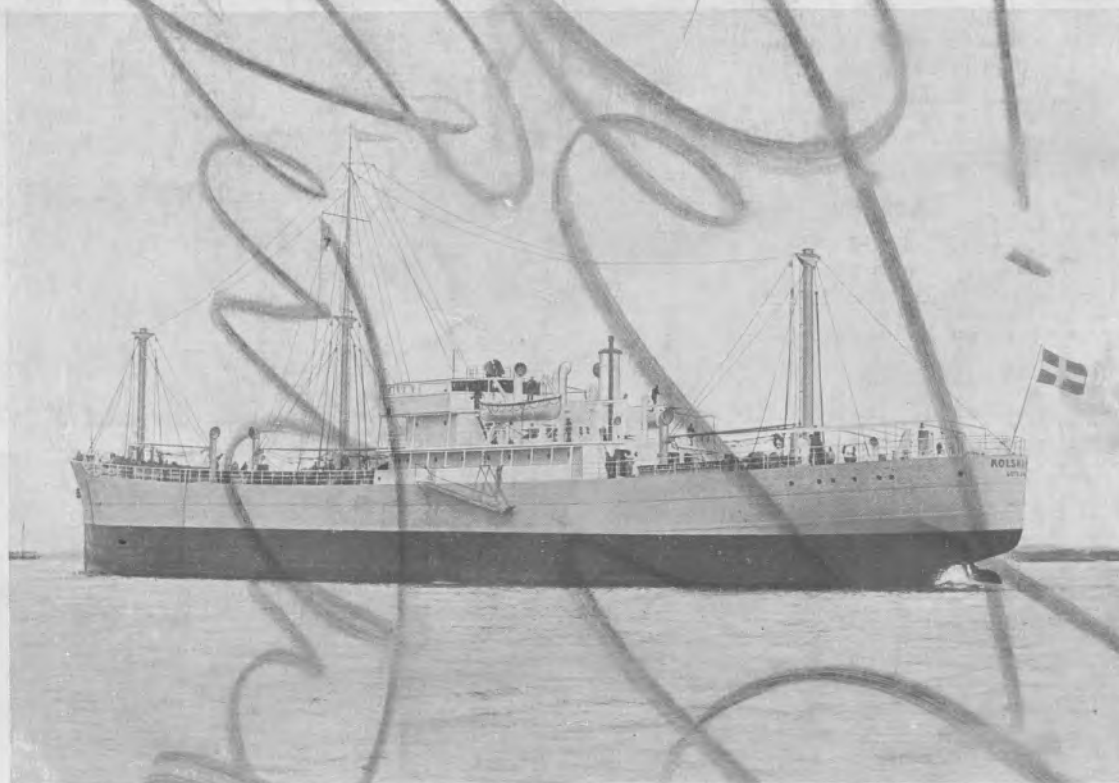
Send for
Beardmore-Tosi Catalogue

*Further advantages of the Beardmore-Tosi Diesel Engine
will appear later*

WILLIAM
BEARDMORE
AND COMPANY LIMITED

NAVAL CONSTRUCTION WORKS: DALMUIR, SCOTLAND.
LONDON OFFICE: 36 VICTORIA ST. S.W.1.

PERFORMANCES OF GÖTAVERKEN MOTORSHIPS



No. 15

THE M. S. "KOLSNAREN"

4,600 tons d. w. Owners: The Transatlantic Company, Göteborg

Date of delivery..... May 17th 1923

Power 1,600 I. H. P.

Average speed 10.2 knots

Daily fuel consumption (incl. auxil.).... 4.8 tons

Cruising radius 33,000 naut. miles

BUILT AND DIESEL-ENGINED BY THE GÖTAVERKEN

GÖTAVERKEN

☛ GÖTEBORG - SWEDEN ☛

SHIPBUILDERS AND DIESEL-ENGINE CONSTRUCTORS

(BURMEISTER & WAIN SYSTEM)

LARGEST FLOATING DRY-DOCK IN SCANDINAVIA

LIFTING CAPACITY 13,000 TONS

